Introductory Address

DELIVERED AT

ST. MARY'S HOSPITAL SCHOOL.

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PLEASURABLE as it is to me to try to serve St. Mary's Medical School, it is not without hesitation that I stand here to-day. The advice offered on these occasions has usually been given by those obviously qualified for the duty—by those who, having attained the honours of a profession they honoured by their merits, could not but be acquainted with the needs of a career they had themselves successfully pursued. But I, as a layman, cannot speak as one having authority upon strictly professional matters. I may, however, ask your attention on other grounds—as one who has ever loved and esteemed the profession, as one who has for a good many years felt great interest in this school, and who has again and again been delighted to find himself amongst its students and teachers, and, finally, as one whose pursuits have various points of contact with your own.

I am not, then, going to say anything to you as to your *special* intellectual training. Neither am I, assuming an air of superior virtue, about to address to you a moral exhortation, as if you needed one more than your seniors. Good impulses, I am sure, abound amongst you. There is a good tradition in this school—a school wherein I have never personally known a student I could not esteem. Moreover, though your period of life is one of special temptations, yet it is also the season of the noblest and most generous emotions. And if we who have reached the stagnant waters of middle age may sometimes be tempted to envy you the keener relish of youth, we may with more reason wish for that youthful spirit of devotion which is ever ready to spring forward in what it deems a good cause, without thought of self, or pausing to count the cost. But if youth is the period of generous impulse, it cannot be (your common sense must admit) the period of most reflection, since experience is lacking, and upon that all our knowledge reposes. I ask you, then, to bear with me a short time while I speak to you on a subject about which I have thought long and much, and while I put before you a few considerations which my own experience convinces me merit your attention.

The considerations I refer to lie at the base of all the sciences, and indeed at the base of all rules of conduct likewise. Yet, deep as such questions must be, you can hardly escape them in these days, for they are now "in the air" as people say. There is scarcely a popular lecture or monthly magazine in which they are not referred to. A certain philosophical system, known as the "Agnostic," or "know-nothing" philosophy, has become popular. To its tenets I shall refer in what I am about to say, for I wish to speak to you about the character and practical tendency of that system. I say "practical" advisedly; for the questions I am about to enter upon have a practical interest for you, for the following reason.

In order to succeed in any profession, and therefore in yours, three things are necessary: (1) a certain amount of bodily health; (2) a sound judgment; and (3) an energetic will.

As to the first of these requisites I have nothing to say; that is the business of friends now about me.

A sound judgment is to be gained by the accumulation of a rich store of knowledge, and by practice in avoiding two opposite dangers. (*a*) One danger (and it is a great and besetting one) is the danger of concluding too hastily, and from insufficient data. Against this you have no doubt been sufficiently warned. It is an obvious danger, as to which we are all of us more or less constantly on our guard. (*b*) The opposite danger is a more insidious and less obvious one, and it is one which our very conscientiousness may help to increase. I mean the danger of *not* concluding when the data *are* sufficient—the danger of acquiring such a habit of indecision as to run the risk of being still occupied in balancing probabilities when the time for action has arrived, or has even passed. In the business of life—and I will venture to say, eminently in the practice of your profession—prompt and decisive action has again and again to be taken upon a nice estimate of probabilities. But wise action of the kind will be less likely with those who are habitually in a state of "not knowing their own minds," and of dallying with certainty, unable to say whether they are, or are not, certain as to the facts before them. Energy of will is hardly to be expected where such an intellectual enfeeblement exists.

Amongst the changes which have taken place since I was of the age of the youngest of my hearers, is the change in the mental pabulum put before men like yourselves. I do not refer to physical science, and the great advantages you enjoy in that respect. I refer to the fact that thirty years ago questions of philosophy (metaphysics) were not popular subjects as they have now become. You are now again and again called upon to treat as open questions the first principles of all reasoning—fundamental truths on which the whole fabric of science reposes. This change, like the other changes which progress brings about, has its unquestionable advantages, but it has also its disadvantages.

It is not to be expected that the majority of educated men (young and old) should intentionally "take up" philosophy in such a busy world as ours, where so much has to be done to live, and where so many (I, for one, think too many) examinations have to be passed. Yet, with or without knowing it, all men are philosophers, and philosophise, as M. Jourdain innocently spoke prose, without in the least suspecting it. Science, as you know, is only methodical common sense, and the same may be said of philosophy. No science can be valid which contradicts the plain teaching of good sense, and no philosophy can be true which does not stand the same test.

If the effect of the wide diffusion of metaphysical questions is to make young men really sound the depths of their knowledge and "know their own minds" betimes, I can only rejoice at it; but I must own to having observed in not a few cases the very contrary effect. Men have known their own minds less than ever, and exchanged a mere absence of knowledge for an active state of puzzledom as to the declarations of their own reason—a state favouring that very habit of indecision and that feebleness of judgment to the practical ill-effects of which I have just referred. No greater service can well be done to a young man at present than to furnish him with a thread by which to find his way out of the speculative Dedalian labyrinths in which he may find himself involved.

And now, in the first place, I will ask you to remark that there are many things about which you *are absolutely certain;* as, for example, that you are now at St. Mary's Medical School listening to an address, and that it is neither dawn nor midnight. As a fact, certainty exists for us about a multitude of things, without which life could hardly go on. If, however, you doubt about any matter, how do you proceed to settle that doubt? Probably, in the first place, you speak to some one in whose knowledge and judgment you have confidence, or you may sit down and reason the matter out for yourselves; or, if the subject of your doubt admits of it, you may call in the aid of your senses, and settle the matter by direct observation or experiment. But if you sit down to reason with yourselves, or with one another, in what does it all end, supposing a satisfactory conclusion is reached? The process of proof must stop somewhere. Everything cannot be proved; we must stop at last at what is incapable of proof, because evidently true without proof. Thus, if I show you that this table is of the same length as a certain stick, which stick you know to be of the same length as another table in another room, I have proved to you with certainty that the two tables are of the same length, since "things which are equal to the same thing are equal to one another." But this dictum itself cannot be proved any more than the dictum that a thing cannot both "be" and "not be" at one and the same time. There are things, then, which cannot be proved because they are above all proof, and surely that a thing is "self-evident" is a very excellent reason for believing it. But there is a kind of prejudice, against which a word of caution is needed. Many persons are apt to think that everything we are convinced of without proof must be believed by us *blindly*, but that we do not believe blindly

what comes to us as the result of a reasoning process. This prejudice is due to the fact that most of our knowledge is gained by inference, and thus we have come to associate[1] the "inferred" and the "not blind," forgetting that if it is not blind to believe what is evident to us by means of something else, it must be *much less blind* to believe that which is directly evident in and by itself! Self-evidence, then, must be the supreme test of truth. Thus you will, I think, see that if we are to have any knowledge at all about anything (and that we have not only knowledge, but *certainty*, we have already seen), we must recognise the fact that some truths are directly known to us—fundamental truths upon which the rest of our knowledge reposes. If we cannot trust these convictions—if, for example, we cannot be *certain* that if any man's two legs are cut off they may not at the same time remain on—rational thought is impossible, and it is of no use trying to think about anything.

But in reasoning to a satisfactory conclusion about any matter which is doubtful to us, it is not only necessary that we should be aware of fundamental truths which support all reasoning, but also that we should have certainty as to the validity of the process of reasoning. Manifestly our fundamental truths will be of little good to us if we cannot trust the process by which we educe other truths from them. The axioms, definitions, and postulates of Euclid will not serve us if we cannot trust even that process of deductive reasoning by which the beginner crosses the well-known bridge. Anyone, then, who reasons, anyone who offers us arguments, even though they be intended to disparage our reasoning powers, implicitly asserts the validity of the process to which he appeals, and must appeal, by indulging in argument at all. Similarly, when we try to settle our doubt by speaking to some one in whose knowledge and judgment we have confidence, we manifest our certainty that language can, to a greater or less extent, express thoughts, and that the thoughts of one person can by speech be made intelligible to the mind of another person. But what does this certainty imply? It implies that we know not only that there is a really existing world external to us, but also that there are other beings about us more or less like ourselves, with organs of sense which can be affected by our words and gestures, and whose minds can by such means be brought into communication with our own mind. "*Our own!*" But what do we mean by the words "our own?" What do we mean by the monosyllable "*I*"? If you will reflect upon this little word, you will see that it contains much more than at first appears. When I say "*I*," I imply that the central point, as it were, in that complex whole of which my thoughts and my body are the circumference—that this centre of my being remains *the same*. By memory I know that the mental changes which I remember happened to me; by memory I *know*, for example, that I am the man who came here to lecture on comparative anatomy when our ever-lamented and esteemed friend Mr. Gascoyen was dean.

But see what such an act of memory implies! It implies that our intellect has the power of perceiving with certainty a real existence not present to the senses; for of course the events of our own past lives cannot be present to our senses. Observe, I do not simply mean that events in our past lives affect our present conduct; such practical memory every whipped dog may have. I mean that we have the power of recognising remembered events *as* past events, the past *as* past, and ourselves as having certainly and in "truth" endured through it.

But what do we mean by *truth?* We all know some things are true; for example, it is "true" that our school is near the Paddington railway station. "Truth" is an agreement between some external existence and the intelligence of some being which knows of that existence. It is a conformity between thoughts and facts; and if we have (as we know we have) the power of *knowing* anything to be true, we must have the power of knowing what is really external to ourselves—what in metaphysical jargon is called "objective truth."

But we can apprehend something more than simple "truth." When you reflect that two and two make four, that any two sides of a triangle are together greater than the third, that the whole is greater than its parts, that you cannot both have your cake and eat it, or, in other words, that nothing can at the same time both "be" and "not be," and, finally, that ingratitude can never be a virtue,—when you reflect on these truths, how do they impress you? Do you not clearly see that these truths must be true anywhere and, as we say in Sussex, "anywhen"?

There *are* things which you cannot think, merely through an impotence—a negative, passive inability—to think, as when you cannot think *seriatim* of the units which would together make up a million; but such an impotence is a very different thing from actively seeing that anything cannot be because it is positively impossible. This is a very important distinction which I would have you carefully note. If any man doubts the universality and necessity of such a truth as that "a thing cannot both be and not be at one and the same time"—if, that is, any man thinks he might be both present and absent at any spot in Sirius now, or have been both present and absent at the entombment of the very oldest fossil,—then such a man either does not clearly apprehend what is signified, or his mental condition is pathological.

But some of my hearers may ask, "How can such a creature as man—an inhabitant for a few seconds of an obscure atom of creation—know such a thing as absolute and necessary truth—truth for all ages and for the remotest regions of space?" Really, however, the existence of this sentiment is due to an illusion easily to be explained. As a general rule, things which are very distant, or which happened a very long time ago, are known to us only in roundabout ways, and are more or less uncertain; while our convictions concerning the things about us at any given moment can be tested by our senses, and we are certain regarding them. Thus it comes to pass that we associate "uncertainty" with statements about what is remote, and "certainty" with what is present. But we have already seen that "self-evidence" is the supreme test; and if a proposition is vouched for by that test, it *can* have no higher. If we were to doubt it, we should cut the ground from under all certainty whatever.

But, in fact, this knowledge of ours of universal and necessary truth is not really more mysterious than is the rest of our knowledge. On the occurrence of certain changes in our nervous system we have an innate power of feeling sensations. On the occurrence of certain sensations (actual and remembered) we possess an innate power of perceiving external objects and having ideas. On the occurrence of certain perceptions we have an innate power of recognising our own existence, past and present. Similarly we have an innate power of perceiving universal and necessary truths when the occasion presents itself. We learn them through experience, as we learn other truths. As when a mental image arises in our memory we may become aware it represents a past experience, so on a given truth entering our minds we may become aware that it is a necessary one. There is really no more difficulty or mystery in the mind's perceiving that two and two make four, and must do so, since they *must* make four, than there is in its remembering that we have been to Paris if we *have* been to Paris, or that a sensation is one of sweetness when it *is* so. The fact *is* so, and we perceive it to *be* so; and the act by which we do this is no more really marvellous in one case than in another; or, rather, every act of knowledge is alike marvellous. We know things, and we know that we know them. *How* we know them is a mystery indeed, but one about which it is perfectly idle to speculate. It is precisely parallel to the mystery of sensation. We feel things savory, or odorous, or brilliant, or melodious, as the case may be; and with the aid of the scalpel and the microscope we may investigate the material conditions of such sensations. But *how* such conditions can give rise to the feelings themselves is a mystery which defies our utmost efforts to penetrate. Yet, because we cannot discover this, we never doubt our sensations. Neither should we doubt our judgments as to necessary truth. For, in fact, it is these latter which are ultimate and supreme, as a little consideration will show. It is true I have represented you as testing some deduction of your reason by the aid of direct observation and experiment; and it may therefore seem to you that by thus appealing to your senses you make *them* the ultimate test of truth. But it is not really so; for in thus acting we *think* in *feeling*, just as we always *feel* to a certain extent (that is, the imagination is active) in *thinking*. And "certainty" does not exist in "feeling" any more than doubt. Both belong to thought only. Thus, then, in verification by sensation the ultimate appeal is not really to the senses, but to the intellect, which may doubt, and which criticises and judges the actions and suggestions of the senses. "Feelings" are but the materials of certainty; and though we can be perfectly certain about

[1] This association, as well as another mentioned further on, has been pointed out by my friend, the Rev. Professor Clarke, F.L.S., in his "Questions in Psychology."

our feelings, that certainty belongs to "thought," which is therefore our absolute criterion. It is only by thought that we know we have any feelings at all.

Do not understand me, however, as wishing to underrate the value and trustworthiness of our sense-perceptions. Very foolish cavils have often been raised against these, such, for example, as that when a leg has been cut off, its toes may occasionally still seem to be felt, or that when two fingers are crossed and a pea is held between the crossed ends, we seem to feel two peas, as if we could rationally expect our organisation to act normally under abnormal conditions! A hydra is capable of being turned inside out without apparently much inconvenience. If we could undergo a similar operation, no doubt the world about us would bear a singularly modified aspect, but it seems to me that a man would be a grumbler who complained because he was not organised to get accurate notions of things while thus introverted.

Some one, however, may doubt whether we are not forced blindly to believe things to be self-evident which are not really self-evident. Now, if by this he means that individuals may make mistakes in applying the test, I should be the last person to dispute anything so plain; but if the doubt be one as to the validity of the test itself, see the logical consequence! The consequence is an absolute scepticism which would invalidate all speech and even all thought, and reduce us to a simply idiotic condition; for no mistake can well be greater than that of regarding philosophical scepticism as a specially *intellectual* state of mind. That men are not idiots who profess it is due to their inconsistency. It is due to the fact that they really trust what they profess to doubt,[1] and that they have no practical confidence in the system they put forward.

The absolute philosophical sceptic cannot formulate a single proposition without practically denying his own system, and, to be consistent, he must abstain not only from speech, but from thought also, since to think anything is mentally and implicitly to affirm that something or other is true. Thus the sceptic's own professed system *cannot* be believed by him, since to believe it would be *ipso facto* to deny it by asserting the certainty of uncertainty. We are thus reduced to the choice of accepting as really true what our minds declare to be self-evident and necessary truth, or else to abandon our reason.

Let us review our course thus far. We have recognised the fact that our being has innate powers of feeling and perception, which powers manifest themselves on the occurrence of certain conditions, and that amongst our perceptions and judgments those are supreme and ultimate which declare themselves to be self-evidently and necessarily true. Beyond this it is *impossible* to advance. No certainty *can* be greater than the certainty we thus obtain. On this foundation we may, with due care and precaution, securely build, while, if we reject it, we are logically reduced to the condition of idiots.

But why, you may ask, why take so much time and trouble to point out truths so obvious? I do so on account of my own experience. Had I, when my intellectual life began, had brought to my notice the considerations which I now present to you, I might have been spared much waste of energy and much disadvantage. I feel, therefore, that I am doing the best I can do for you in endeavouring to point out the fallacies of that metaphysical system about which I spoke at the beginning of this address, and which system may be well termed "*the art of losing one's way methodically*"—a system insidiously undermining our rational confidence in human reason, and so weakening the springs of prompt and vigorous action.

The errors of the system I refer to may be summed up in the one contention that we have certainty only with regard to the passing feelings of the moment, or, as they are called, "states of consciousness." Consequently, that we have not the highest certainty even as to our own continued existence; still less as to the existence of external things as they are in themselves, to say nothing of necessary truths. These objections are put forward by writers and lecturers of repute—such as Spencer, Mill, Tyndall, Huxley, Bain, Clifford, &c.—"all, all honourable men," and yet I do not for a moment hesitate to affirm that their teaching is really and actually nonsense. This is bold language, and I cannot complain if you are at first sceptical as to the justice of my censure. Bear with me, then, while I represent to you in a very few words, first, the suicidal nature of their whole system, and, secondly, one or two typical fallacies which may open your eyes to the untrustworthiness of these guides and cause you to feel less surprise if I exclaim, "*These be thy Gods, O Israel!*"

First, as to the system. If you saw a man seated on a lofty branch, busily engaged in sawing it across where it sprang from the tree's trunk, you would not think much of his wisdom. Yet such is just the position of the upholders of this system in affirming what they call "*the relativity of knowledge*"—in affirming, that is, that all one's knowledge has only a relative value, and is none of it absolutely true. See what follows from this! Every philosophy, every system of *knowledge*, must start with the assumption (implied or expressed) that something is true. By the teachers of the "relativity of knowledge" it is evidently taught that the doctrine of the "relativity of knowledge" is true. But if nothing which we can know corresponds with external reality, if nothing we can assert has more than a relative and phenomenal value, then this character must also appertain to the doctrine of the "relativity of knowledge." Either, then, this system of philosophy is merely relative and phenomenal or it is absolutely true. But it must be merely relative and phenomenal if *everything known* is such. Its value, then, can be only relative and phenomenal—that is, it cannot absolutely correspond to external reality, and is therefore false. But if it is *false* that our knowledge is only relative, then some of our knowledge must be *true;* but this upsets the foundation of the whole system. Any philosophy, then, of this kind refutes itself, and is necessarily suicidal, like our friend up a tree.

If Agnostics were to reply that when they say "all knowledge is relative" they do not mean to assert even *that* proposition absolutely, but that they acknowledge that proposition itself to be only relative, then we may rejoin that this last declaration is *itself* only relative; and so we may change the value of our terms *ad infinitum*, till we have changed them so much that we no longer have any idea where we are, and are thus landed in the most utter scepticism—that is, in idiocy.

So much for the system as a whole—a system well named by some of its advocates the Agnostic or "know-nothing" philosophy!

Now for one or two propositions put forth by some of its maintainers.

Professor Huxley[2] has said: "The general trustworthiness of memory" is "of the highest practical value, inasmuch as the conclusions drawn from" it "are always *verified by experience*"! This is one of the most singular fallacies it has been my lot to meet with, and has actually been selected by a friend of mine for insertion in his Logic, as an example of the well-known process of arguing in a circle. We are to trust our faculty of memory because we find it true. But how can we know it ever has been true in one single instance except by trusting an act of memory? As well say to a man who wants to go to Liverpool and tells you he has no money, "Then buy a first-class railway ticket." We are told to trust our present memory on the ground of its past truthfulness, and we are to accept its past truthfulness on the ground of our present memory.

The same writer affords another surprising example of self-destructive reasoning. In common with Agnostics generally, he denies that distinction to which I adverted in the beginning, when I said that "ingratitude can never be a virtue"; that is, he denies any fundamental distinction between virtue and pleasure. He has said:[3] "Social morality relates to that course of action which tends to increase the happiness or diminish the misery of other beings; personal morality relates to that which has the like effect upon ourselves." Yet three pages later he says: "However bad our posterity may become, so long as they hold by the plain rule of not pretending to believe what they have no reason to believe because it may *be to their advantage* so to pretend, they will not have reached the lowest depths of immorality." But, according to his definition just cited, if such action should tend to "increase our happiness or diminish our misery," it would be *moral*.

And this reminds me of a like fallacy of a more eminent utilitarian, John Stuart Mill.[4] He declares: "If I am informed that the world is ruled by a being whose attributes are infinite, but what they are we cannot learn, nor what the principles of his government, except that 'the highest human morality we are capable of conceiving' does not sanction them; convince me of it, and I will bear my fate as

[1] Lay Sermons, p. 359.
[2] In the Nineteenth Century for May, 1877, p. 536.
[3] See his "Examination of Sir William Hamilton's Philosophy," p. 103.

I may. But when I am told that I must believe this, and at the same time call this being by the names which express and affirm the highest human morality, I say in plain terms that I will not. Whatever power such a being may have over me, there is one thing which he shall not do; he shall not compel me to worship him. I will call no being good who is not what I mean when I apply that epithet to my fellow-creatures; and if such a being can sentence me to hell for not so calling him, to hell I will go." Now this is a sentiment to be highly applauded, but it contains an utter refutation of Mill's own system. For if actions are good or bad merely according to the pleasure or pain which may follow them, then if it were a fact that by flattering a bad God we could secure a maximum of pleasure, while otherwise we should incur endless torment, then most certainly, on the miserable principles of utilitarianism, such flattery must be "good." Mill of course meant that other men should act as he said he would, and thus we have the curious piece of advice that (on his supposed hypothesis) all men should agree to accept infinite and final misery in the pursuit of happiness as their one only end!

A fatality seems always to enable us to hoist the despisers of human reason with their own petard.

But please note that though this illustration refers to a matter of religious belief, it is a mere illustration, and is not even mine. Nothing that I advance to-day either reposes upon or has reference to any form of religion. I appeal to your reason only, and I wish to make you recognise, as far as in a few words I can, the nobility of your own reason. If Christianity were overthrown to-morrow, the truths of philosophy and the system based upon them, which concord with the common sense of mankind, would remain erect as that system was erect, and was maintained by Aristotle, centuries before Christianity came into the world.

Another curious example of agnostic fallacy may be found in the writings of Professors Helmholtz and Clifford, who have denied that the truths of geometry are necessary truths on the following ground. They have imagined creatures living on the surface of a sphere and devoid of thickness, so that they coincided with that surface, and were able to have experience of lengths and breaths in curves, but none of heights or depths, or of any straight lines. To such creatures they say our geometrical necessary truths would not appear "truths" at all, and therefore they add, the geometrical statements, which appear to us to be necessary truths, cannot really be such. Here we have, once more, what is equivalent to our hydra turned inside out. Let it be granted that the geometrical truths referred to *are* necessary, yet creatures so extraordinarily defective might well not be able to perceive truths which more perfect beings, like ourselves, can perceive. But there is nothing to show that, if such creatures could conceive straight lines at all, they would not perceive the impossibility of two parallel ones ever meeting, just as we can perceive the necessary results of their very peculiar state of existence. And, it may be asked, how could these professors ever tell what would or would not be the necessary perceptions of the sort of creatures they have imagined, unless those professors themselves really knew absolute truths? Either their representation need not be true, or they themselves must perceive and implicitly assert the existence of *necessary* truth for the validity of their argument.

Lastly, I will call your attention to a dictum of Mr. Herbert Spencer. He tells us that we cannot know our own real persisting mind, because, forsooth, "every state of mind is some modification of the substance of mind," and because in no state of mind can the substance of mind be present unmodified. Therefore, he tells us, "we know nothing, and never can know anything," about this persisting mind of ours.

Let us apply this reasoning to some well-known object—for example, to our own respected Dean. I have never known him, and you have never known him, except as either in motion or at rest; as standing up or sitting down; walking or what not; as with his hat on or with his hat off; now as a kind host at a hospitable board, now as giving a valuable caution or, perhaps, a timely rebuke in an adjacent room. But, except as existing in some definite state, or, to use Mr. Spencer's words, "as qualitatively differentiated in each portion of his existence separable by thought," neither I nor you have ever known him; but we don't feel any doubt about the reality of our knowledge of him for all that. Just so it is with regard to our own mind. That we never know it except as in some state is most true, for the very simple reason that it never exists except in some state.

An unmodified existence—Mr. Spencer's "*qualitatively undifferentiated ego*"—is a pure absurdity and a sheer impossibility. No wonder, then, that our intellects do not apprehend it.

It is a painful task to point out the absurdities of eminent men—men whose attainments and whose great native powers justly merit our esteem. The absurdities, however, may be theirs only from their having been early entangled in the meshes of a false system, wherein, like a fly in the web of a spider, their struggles may but make their entanglement the more hopeless. The very eminence of these men, however, calls upon me to speak as I do, for by their dogmatic utterances the unwary are in danger of mistaking assertion for proof, and yielding up their confidence in their own reason—like Aladdin parting with the venerable lamp of really magic power for a worthless new one. For these men, while proclaiming that we can know nothing but appearances, and that nothing can in truth be really known, yet dare to affirm that they know that the healthy common sense of mankind has gone all wrong, and, what is more extraordinary still, that the greatest philosophers have accepted the delusions of the vulgar, and gone wrong, too, in asserting that we actually know ourselves, and things about us as they really are.

But although to deny our knowledge of the external world is an absurdity, it is not the greatest which some of these know-nothing philosophers maintain. For while they say we can know nothing but states of mind, they yet represent these states as the accompaniments of *a material object*, the brain; and while acknowledging that such an object is for us but a "state of mind," they yet do not scruple to speak of "purely physical changes and conditions," just as if they meant what we mean by those terms. And, in fact, they do mean what we mean, so that this representation of theirs is a piece of "*intellectual thimblerigging*," by which the unsuspecting onlooker is liable to be cheated out of his most valuable mental possession—his rational certainty.

Thus they declare some things to be doubtful for reasons which, if they be valid, would prove the truth of the things doubted; for they declare our mental being to be doubtful on account of physical considerations which depend on that very mental being for their validity. They also declare things to be true for reasons which, if they were valid, would prove the things declared to be true to be in reality false, for they declare physical existences to be true while all their reasoning rests on the alleged ground that we can know nothing, and have therefore no ground for believing in the existence of anything save states of consciousness.

But if they really do believe in "material objects" and "physical states" as *realities*, and are at the same time sincere in affirming that we can know nothing but states of mind—states of consciousness,—then they can only get at their "material objects" and "physical states" by an act of blind and unreasoning credulity, superstition thus taking the place of insulted reason. This noble faculty vouches for the existence of both mind and matter, though it cannot explain *how* the knowledge we have of either is come by. People not content to accept this double knowledge naturally given, may indeed by extraordinary mental gymnastics succeed in spinning out fantastic idealist systems or gross materialist ones. Neither of these, however, concords with the phenomena of consciousness. Both break down when we test them by internal observation and mental experiment. But most unreasonable of all are those sophists who, upon an idealistic basis, would erect a materialistic system, thus realising a double absurdity.

I must yet mention one last piece of unreasonableness—the denial that our thoughts and desires can intervene as *causes* in the events of our lives. But what is the fact? Suppose that Marsh were to come suddenly in, and tell us that St. Mary's Hospital was on fire, who does not *know* that the actions we should thereupon perform would be due to our mental apprehension of the news told us? If I do not know that it is my *knowledge* of your presence to-day which makes me read this aloud, I know *nothing*. To deny such a thing would be to deny what is most evident in favour of what is much less so—some speculative hypothesis. As the late George Henry Lewes has said, "that we are conscious, and that our actions are determined by sensations, emotions, and ideas, are facts which may or may not be explained by reference to material conditions, but which no material explanation can render more certain."

And this brings me to the consideration of that which (as our consciousness tells us) *does* intervene as a cause in the midst of merely physical agents, which is no passing feeling of the moment, but which persists from day to day, and knows itself *as* persisting—looking before and after; which knows the world about it, and upholds an idea of right and wrong as a part of its intellectual domain; which apprehends truth, not only in a modicum of time and in a corner of space, but which knows universal and necessary truth, not blindly (through a mental impotence), but *actively*, and in the full evidence of intellectual light. This wonderful reason—this admirable intellect of man, in the contemplation of which we may well feel awe and wonder, how is it not insulted and blasphemed by those who are so blind as to think they have adequately represented it when they have enumerated the physical conditions needed for its bodily manifestation.

Because the integrity of this or that region of the brain is proved to be a *sine quâ non* for this, for that, or for all mental activity, nothing can now be brought against the existence of man's soul more than the old familiar fact that "when the brains were out the man would die, and there an end," as far as all sensible manifestations are concerned. The refinements of cerebral physiology have really no bearing on the question. And here an observation may be made more especially applicable to you. "To you," because from the kind of study to which you are devoted you are exposed to the temptation of exaggerating the significance of physical conditions. We are all subject to this sort of temptation. In the words of an Englishman whom men of all parties agree to respect,[1] "Any one study, of whatever kind, exclusively pursued, deadens in the mind the interest, nay, the perception, of any other. Thus, Cicero says that Plato and Demosthenes, Aristotle and Isocrates, might have respectively excelled in each other's province, but that each was absorbed in his own. Specimens of this peculiarity occur every day. You can hardly persuade some men to talk about anything but their own pursuit; they refer the whole world to their own centre, and measure all matters by their rule, like the fisherman in the drama, whose eulogy on his deceased lord was, that "he was so fond of fish." Thus, when anything comes before us which is very unlike our ordinary experience, we are apt to disregard or turn away with distaste from it, not because it is really contrary to reason, but because it startles our imagination by its strangeness.

But the facts as to man's intellect, which we have reviewed together, seem to me to show that we need not wonder that it should be able (in this instance as in others) to apprehend by inference the existence of what escapes the apprehension of our senses.

Our senses can never detect more than the qualities of material substances. The eye cannot see sight, nor the ear hear hearing, nor can any or all our senses perceive those sentient faculties which we none the less *know* (and know with *certainty*) that we possess. And as our intellect can thus apprehend our faculties, so it can know that principle of individuation which is the essence of each of us, which joins past and present experiences, external and internal feelings, in one unity, and which we call the soul.

This principle immanent in our body, or, rather, which is that body *living*, is necessarily unimaginable, just as "reason," "virtue," or "belief" are unimaginable, since we can never imagine anything of which we have not had sensuous experience. But, as I have already pointed out, it is not sense and imagination, but *intellect* and *reason* which are supreme, and if we have *rational* grounds for the acceptance of any purely intellectual conception, the poverty of our imagination should be no bar to its acceptance. For we can think what we cannot imagine: for example, other senses than we have, and even our own non-existence. There are many ideas which in no way resemble "sensations," though they have been suggested to our intellect by means of sensations. Such, for example, are the ideas of "substance" and "cause," ideas perfectly intelligible to the intellect, though they transcend the powers of the imagination to picture.

What, then, do we come to as the result of the foregoing considerations? We come to recognise the presence in every one of us of a principle which is able to transcend its own material conditions of existence, which is able, more or less clearly, to apprehend the essential natures and natural laws of the multitudinous beings amidst which it lives, which can reflect on its own being and its greatest dignity—its power of apprehending the ideas *truth*, *beauty*, and *goodness*.

What practical consequences follow from this conclusion? *Noblesse oblige*. How great does the obligation become of worthily employing powers so noble; how culpable as well as how foolish would it be for any of you to let slip the opportunities here offered you of acquiring a knowledge so vivid in its interest and so extreme in its importance as the professional knowledge it is your business to acquire. There is yet another consideration. What respect is not due to even the most degraded human being who may come under your care, since in each, however it may be obscured by adverse circumstances or by the brutalising effects of vice, the same intellectual nature is present as in the highest of us.

In conclusion, I would again urge on you what it is the main object of my address to urge—namely, to allow no man to deprive you of that spontaneous trust in your reason with which nature has endowed you. Thus you may avoid that loss of time and that mental enfeeblement which spring from habitual uncertainty. Secure in the possession and clear apprehension of the first principles of reason, you may advance steadily in the knowledge of those arts and sciences which will enable you to adorn that profession upon which you are now entering. That such success may attend you is my hearty wish, and in so wishing I sincerely thank you for the patience with which you have listened to these remarks, which I once more commend to your earnest consideration.

[1] Cardinal Newman.

Abstracts
OF
INTRODUCTORY LECTURES
DELIVERED AT THE
MEDICAL SCHOOLS OF LONDON
AT THE
Opening of the Session 1879-80.

CHARING-CROSS HOSPITAL.

INTRODUCTORY ADDRESS BY MR. FRANCIS HIRD.

THE session at the Charing-cross Hospital was opened by Mr. Hird, the Dean of the Medical School. After congratulating the students on the marked success which had been achieved by them during the past year at the several examining boards, he said that he could not permit the opportunity to pass without alluding specially to two old students, former resident surgical officers—Mr. Jolly and Mr. Conolly,—whom he was happy to see among them again on their return from South Africa, after having rendered distinguished services in the war, and been honourably mentioned on several occasions in the despatches from Zululand. They had done honour to themselves and to their *alma mater*, and, in the name of his colleagues and of the students, he begged to offer them the warmest thanks for their patriotism, and to wish them a brilliant future in their profession. He then alluded to a new era in the history of the hospital which will be commemorated at the opening of the session next year. The new school buildings will then be ready for occupation, and by the cordial co-operation of the council with the medical staff they will be on an extensive scale, and fitted with all the modern appliances. Mr. Hird next, in specially addressing those now entering the profession as students, pointed out the necessity of comprehending what it is they propose to learn, its subject-matter, and its objects, and to consider the most effectual means of attaining their purpose. Education, whether general or technical, he considers the most important subject which can occupy the human mind; it is the basis of individual happiness, and of the rank and usefulness of man in society; it develops and cultivates those powers which distinguish man from the brute; it refutes the doctrine of evolution as applied to man; it stamps the character of an age, and constitutes the chief distinction among men and among the nations of the earth. He recom-

mended, in accordance with the curricula of the corporate institutions, that the course of study should be pursued with method and order. Anatomy and chemistry, which derive little aid from other branches of medicine, but throw the greatest light on most of the other departments, should occupy the student's chief attention during the first session, as the simplest operation in surgery can neither be comprehended when described nor understood when seen without an acquaintance with the structure of the part. As a knowledge of the healthy structure of the frame is the basis of morbid anatomy and the keystone of surgery, so is chemistry an essential requisite to the study of physiology and therapeutics. Chemistry is no less satisfactory to the mind from the certainty of its evidence than gratifying by the beauty of its experiments. How different is the treatment of disease since we possessed a more accurate knowledge of the processes of digestion, assimilation, and excretion. Without a careful study of chemistry, physiology and medicine would obtain no light to guide them in the investigation of the laws of life, and the removal of abnormal states of the organism. Physiology, or the science of life, investigates the functions of plants and animals. It examines the processes by which the living body possesses the power of assimilating to its own substance foreign matters introduced into its living laboratory. The origin and nature of those changes of structure to which every organ is liable belong to the department of pathological anatomy, which tends to substitute demonstration for conjecture in the theory of disease, and to lay the foundation for rational practice. Pathological anatomy not merely points out the seat of disease and its effects upon certain organs, but it develops many of the laws of diseased action, and explains in the history of the symptoms many circumstances previously involved in obscurity. Without it post-mortem examinations would be little more than a waste of time. It, moreover, is of the highest value to clinical medicine by enabling us to appreciate the importance of symptoms, to trace the progress of diseased action, and to enlighten us on the value of therapeutical agents, and consequently to practise our profession with success. Therapeutics is that branch of the science of medicine which observes man in the state of disease, ascertains the laws to be followed in the employment of those methods of cure which have been, by reason, deduced from the principles of physiology and pathology, and sanctioned by well-trained experience. This knowledge of physiological therapeutics enables the scientific physician to determine the respective powers of nature and of art in promoting recovery from disease. These studies, Mr. Hird said, should be considered as preparatory to clinical work in the wards, to which the student should bring an intelligent acquaintance with the fundamental principles which guide us in the scientific investigation of pathological processes. Clinical medicine and surgery teach us to become correct observers, quicken our perceptive faculties, and enable us to interpret the signs of disease and readily to determine their causes, effects, and remedies. This power is not the work of genius or inspiration—physicians are not prophets,—but the slow result of long and well-directed study. It is by work honestly done, personally performed, in the wards, directed by the clinical teachers, whose duty it is to impress precept upon precept on those attending their clinique, that the student should qualify himself for the responsible duties of his profession; he should carefully observe the methods adopted, and follow them strictly in observing, testing, and recording facts, and remarking the deductions made from them. His knowledge of disease should be learned from demonstration. It is the province of the medical man to discover the causes of morbid processes which indicate disease; to foretell, almost with certainty, the course they will run; to arrest their progress, and to restore the sufferer to health. "The greatest revolution in surgical practice, in modern times, has been accomplished mainly by the brilliant discovery of Professor Lister. By his antiseptic method of treatment, operative surgery has been 'disarmed of its greatest terrors'—blood-poisoning, after operations, become rare, and hundreds of lives have been rescued from death. We owe this great boon to humanity to the application of the teachings of abstruse science to the prevention of disease. This is a noble triumph of man's reason. In practical medicine, also, great achievements have been accomplished, and the impulse which for the last half century has so signally extended the boundaries of knowledge in all directions, still actuates the human mind. Let your energies be put forth to the fullest extent, so that by perseverance and industry you may all be masters of the profession you have chosen. The opinions now formed will, for the most part, be the opinions upon which, in after-life, the student will be confidently and constantly acting; therefore it is that teachers feel they are engaged in a very serious undertaking. Doctrines or maxims, good or bad, flow from a public teacher as from a fountain, and his lessons may become the indirect source of incalculable evil and suffering to others. But among all the responsibilities, both of teachers and learners, the profession which both you and I have chosen is one with which we may be well satisfied. It has its own peculiar privileges and advantages, and, if rightly pursued, may prove to each of us a lasting source of mental and moral profit. Our daily vocation tends also, by the constant exhibition of pain and weakness, to awaken the best emotions of our nature, and to promote the charities of social life. It affords us continual opportunities of showing kindness to our afflicted fellow-creatures, and is free from party turmoil and sectarian jealousy. Pain and danger are the only passports to its good offices. It regards no political differences, and the poor no less than the rich are embraced in its ministrations. Practised, as it ought to be, by the sense of duty to be fulfilled, it offers its benefits and blessings to men of every religion and to men of no religion at all. If followed up in the same spirit as our illustrious countryman, Newton, pursued in regard to the physical sciences, wherein he delighted to deduce from the contemplation of the mechanism of the heavenly bodies the power of Him who made them, and who alone sustains and directs their motions, we cannot but be impressed with the harmony which exists in all that relates to man's organisation, and the adaptation of all surrounding nature to his wants and necessities."

KING'S COLLEGE.

INTRODUCTORY ADDRESS BY DR. ALFRED B. DUFFIN.

AFTER a warm welcome to the assembled students, the lecturer proceeded to develop the principles underlying a liberal education. These were referred broadly to three sources—precept, practice, and association. Under the first of these, lectures and colloquial instruction were included; under the second, the various manipulations and hospital duties; under the last, the importance of the society of students to each other. This double movement, moral and intellectual, is essential to the very idea of civilisation, and includes the whole theory of mental progress (Buckle). A liberal profession was then defined as "the application of a science by its actual possessors to the wants of the community, and the cultivation of a science for its own sake." Dealing with the former of these aspects, the duties of medicine were summed up under two heads—with reference to society at large, and with reference to its individual members. Medicine is included in the science of biology. This, dealing with both the healthy and diseased states, breaks up into physiology and pathology. But life is "organisation in action"; our life of relation and the causes acting upon us from without introduce the element of daily experiment into biology. It is here that practical medicine sees its opportunity. The study of the conditions under which health is maintained, and of the modifying influences assaults from without are capable of exerting on the course of disease, have given rise to hygiene on the one side, and to therapeutics on the other. The solidarity existing between the different sections of biology was also insisted upon. The nature of experiment and its limits were defined, together with the purposes and applicability of theory. The reasons for the apparent backwardness of applied medicine were next discussed. Rational treatment was impossible so long as those preliminary portions of biology, the foundations upon which alone a true scientific method can rest, were not sufficiently advanced. The immense strides taken in the latter years by physiology and pathology, and the great development of etiology, were commented upon. The specificity of many poisons, whether of mineral or organic origin, the conditions of the multiplication and propagation of these latter, the results of their residence in the animal economy, have been gradually revealed to us. In illustration the ravages of pyæmia were alluded to, and a warm compliment paid to Professor Lister and the antiseptic method. The consequences of disobedience to definite physiological laws

were insisted upon, as was also the increased precision of modern diagnosis. But the advances of pathology and diagnosis had further shown that many diseases formerly considered trivial were really due to permanent organic changes. The advance of the collateral sciences was thus defining the limits for therapeutic action. We have learnt how weak were the foundations on which many cherished practices reposed, and we have also learnt that most functional disorders have a great tendency to spontaneous recovery. The scepticism which was the first result of this knowledge was treated as a passing phase of medicine, worthy of respect as the parent of further information. The position of medicine was considered secure in two respects—that it should direct the conservation of health and the warding off of disease. Most would also admit that the application of hygienic laws to the actual management of illness constitutes a distinct progress. After a brief allusion to ancient medicine, it was contended that therapeutics, to be exact, must be dealt with according to the same principles as the other natural sciences, by observation and experiment, and the utmost care should prevail in drawing inferences. The valuable results already obtained from observation were gratefully recorded, but the importance of an extension of the experimental method was insisted upon. The *modus operandi* of drugs was broadly classed under the heads of therapeutic and physiological action. The objections to using animals in order to ascertain the latter were then reviewed, and reference was made to the contrasting actions of belladonna, conium, and opium upon some of them. A list was given of the chief additions to our *armamentaria* from the experimental method, the doctrines of physiological antagonism and the discovery of anæsthetics being brought prominently forward. The idea of cruelty was warmly repudiated and the essential humanity of medicine stoutly asserted. That we will avoid the infliction of pain in every instance where it is possible, the very history of anæsthetics clearly proves. Where its infliction is inevitable, we are too alive to the nature and keenness of suffering ever to inflict one particle of it without the reasonable anticipation of beneficial results.

The lecturer concluded by a review of some of the popular fallacies of the day. The mixture of confidence and distrust exhibited by the uneducated man, the ignorance still displayed as to the manner in which medical discoveries are effected, and the machinery according to which many "patent medicines" are worked, were humorously illustrated. A picture was drawn of the *malade imaginaire*. The fallacies prevalent as to the nature and origin of disease and the consequent craving for specifics, were reviewed, as also the reproach that medicine professes no cut-and-dried "system." Lastly, the whimsical people who "try" first one doctor or system and then another, and the absolute sceptics, were introduced to his audience. The present position of medicine was summed up as being one of hopeful courage.

MIDDLESEX HOSPITAL.

INTRODUCTORY LECTURE BY DR. SIDNEY COUPLAND.

AFTER having welcomed those who that day entered on the arduous but pleasant study of medicine, and having congratulated them upon their choice of a profession, the lecturer proceeded to point out the principles which should guide them in their studies. To many the career that was opening was wholly novel, and it differed from their previous scholastic training in that they would now be their own masters in the pursuit of knowledge. It should be their aim so to dispose of their time as to acquire the amount of knowledge requisite within the limited period of their study. The bewildering sense of novelty and of the multiplicity of subjects was met by the recollection that others had accomplished what they were about to do, and the spirit of emulation should incite them to do what others had done, and, if possible, to do it better.

The prevalent idea that a first-year's student need not work hard was false and pernicious. In reality, the first was the "test-year," and not the last. For if no work were done then, it would not be easy to take to it later when forced by necessity. A definite work had to be done within a definite time, and if not commenced forthwith it would be crowded into a few months, and the system of "cramming" thereby fostered. If they lost sight of the consideration that the study of medicine was their main object, and let the days pass idly and vainly, they had better seek for some more congenial and less exacting vocation than this. In speaking of the kind of work that lay before them, Dr. Coupland firstly urged diligent attendance upon lectures, which, he said, it was a mistake to suppose had been wholly supplanted by text-books. Lectures were useful for explanatory purposes, for the solution of difficulties in the correct understanding of subjects, and for systematising reading. Attendance at the periodical class examinations was equally important, serving to test what had been learnt, and valuable as a training in the clear expression of ideas in writing.

Lectures and books did not exhaust their means of education. The most valuable was that, afforded by so many branches of their study, of personally acquiring knowledge of facts. Anatomy could only be learnt in the dissecting-room, and, rightly pursued, its study there was full of attraction and interest. The practical study of anatomy was but the foreshadowing of that ceaseless observation of phenomena which was in the future to be their pursuit. He therefore urged close attention to anatomy, and repeated the advice given by Mr. Hensman in his introductory lecture two years ago, as to the value of drawing in helping to fix facts in the memory. "It may be said with truth that there is no subject in the whole curriculum which has reached so high a pitch of perfection as anatomy. The value of its careful study lies not merely in its subsequent application to medicine and surgery, but also in the great advantage it has of calling forth the powers of observation, and accustoming the mind to rigid and close scrutiny of details." The like was true, but of less wide application, of the study of histology. The importance of physiology was fully as great, and he thought the examining boards were to blame for allowing students to neglect it too much, for it claimed attention both from its importance and its interest, and he particularly insisted on a mastery of its elementary questions before broaching its abstruser problems. Chemistry, like anatomy, was valuable as a mental training, but it was woven into every branch of our art, and could not be neglected by the clinical observer any more than by the medical jurist and sanitarian. He had singled out these three subjects from the many in the curriculum, because they underlay all future work, and chiefly because if the habit of study were formed in the first year it would hold throughout. He warned his hearers against imagining that to them one subject was more important than another; they were to study all with equal zeal, and not to be drawn prematurely into specialism. Then they had the great advantage of being able to work in concert, and he believed it well for two to study together. The recluse was not to be imitated. Close attention should be paid to the daily tutorial questionings, which he advised them never to miss, owing to the great good they did in making a student know his own ignorance, and thus the better learn the extent of his powers.

In introducing the subject of hospital work, he took occasion to remark that, if it were only thoroughly understood that in providing the means of medical education a hospital performed as sacred a duty as in giving shelter to the sick poor, such institutions would no longer need to ask for support. As to the student's work, he had first to acquire dexterity, which could not be commenced too early, nor practised too often. Slowly and imperceptibly hand and eye would be taught that which they would never lose. Again, many cases of injury and disease required little else than the educated eye and the educated hand for their diagnosis. Then, when later they passed to the investigation of more complex problems, they should especially study the physical signs of disease. Gradually coming to appreciate niceties in diagnosis, training their judgment in the balance of evidence, and learning how far it is possible to restore to healthy action by means of remedies, they would, indeed, learn to *observe*. They were also to learn to *record*, and he emphatically urged them to cultivate the habit of note-taking in all they learnt and saw; not simply to lay up a store of facts with which the memory could not be charged, but because that habit might prove of great service to the profession. "Who can estimate how much we have lost from the fact that generations of men gifted with powers of acute and shrewd observation have passed away without leaving one record behind them? Think not that it is the

hospital physician or surgeon alone who can advance the progress of medicine. There is not a practitioner in the profession who could not add to this great work. But he can only add to it with efficiency if he has faithfully recorded his observations, and does not trust to the general and vague impressions of unassisted memory. Therefore on all grounds, personal to yourselves and general for medical science, so engrain this habit within you that it becomes a second nature." Briefly urging them to attend the special departments, and not to omit to study the effects of disease in the post-mortem room, he concluded this part of his address by pointing out that the hospital affords opportunities for acquiring a knowledge of disease which cannot occur to them again.

Passing to the subject of examinations and examining boards—most important to pupils and to teachers, for their influence was paramount,—the lecturer commenced his remarks on this head by defending the University of London from the charge that its examinations were too stringent and unpractical. He pointed out that practical medicine was bound up with science,—that questions were constantly arising in the prevention and treatment of disease for which a knowledge of science was essential; and he was the most practical who could apply this knowledge. The examinations of the University of London for medical and surgical degrees were eminently practical. To be sure time was wanted for their preparation, but, seeing that many entered now so early that they had to wait four or five years for the diploma of the College of Surgeons, the time was at their disposal. But to ensure success he strongly advised that both the matriculation and preliminary scientific examinations be passed before the intending graduate entered as a medical student. Speaking of other metropolitan licensing bodies, and deprecating the continued existence of many doors of entrance into the profession, he was surprised that more students did not seek the licence of the College of Physicians. He had heard reasons assigned for this: such as that its licence was thought less of than that of the Apothecaries' Hall by vestry boards and the like, in whose gift lay the dispensation of many medical appointments; that its examinations were too seldom held, and that they were more difficult than those of the other body. The chief drawback, in his eyes, and this was common to both the boards, was the postponement of examinations in purely scientific subjects until a considerable time after the student had attended his courses in those matters. He suggested that, pending the relegation of these subjects to compulsory preliminary study, the examinations in them should be held at the end of the first year's studentship. As to the College of Surgeons, he remarked upon its laudable desire to increase the efficiency of its examinations as practical tests, and upon the change which had been wrought in the spirit and conduct of its examinations within living memory. He believed that the proposed change in the primary examination would be a gain to the student, and would moreover impress him with the value of physiology. As to preparation for examinations, they must get rid of the idea that any special training was requisite, over and above the diligent pursuit of their studies. Still it was well to draw up tables for themselves containing points of special importance to which they could readily refer and he again enforced on them the value of practice in the composition of papers, believing that many failed from lack of this. Then when these trials were over they were not to seek too soon to throw off the student life. Now was the time to study special subjects more fully, to follow hospital practice at home or abroad, to seek to hold resident appointments, and then, having completed their education, they would really be qualified for the cares and responsibilities of practice.

On the question of recreation he urged its importance to all who, like them, would be engaged in sheer hard work, but it must be of the right and healthy sort. No one would gainsay them the occasional indulgence in cricket and football, and there were many pleasant country spots at hand where they could get fresh air and healthful exercise. It was also well daily to withdraw their minds for a short space from the engrossing subjects of study, to follow some other pursuit in harmony with their life. He felt bound to mention two errors into which students of all kinds were apt to fall—the one being ill-regulation of diet, and the other late working at night. He characterised the traditional "midnight oil" as a delusion. The ideal plan of study was steady persistence, as opposed to spasmodic and vigorous efforts, and the knowledge gained by the steady plodder was more sound, deep, and enduring than that of the brilliant prize-taker who seemed to lead without effort.

The closing sentences of the address ran as follows:—"When you leave the scene of your student days, and pass out to perform the duties of the life you have chosen, bear with you everywhere that earnest devotion to your work which is its own reward. With whatever success your studentship may have been crowned, do not let the evil thought possess you that you have accomplished all that is possible. The few brief years that studentship has comprised are but the entrance to a lifetime of labour; and having chosen your path in life, follow it to the end with unswerving devotion. We have, fortunately, before us constantly examples to follow in men who have thus nobly laboured all their life through. One whose memory will ever be cherished by us of the Middlesex Hospital ended his life a few months ago, working to the last. It is fitting that I should mention here the name of Charles Murchison; for, although the last seven years of his life were passed in the service of another institution, we cannot and we ought not to forget that for twelve years he laboured within these walls, and that during that time he produced some of his most enduring works. Many a past student of the Middlesex Hospital will remember him for the knowledge he freely imparted to him, and hard by where we are assembled to-day are gathered some lasting mementoes of his labour amongst us.

"In conclusion, it may be asked, to what end is all this labour to which I have to-day invited you? It may not lead to much material prosperity; ours is not the calling that mostly brings wealth with it. If such be your sole object, there are other fields to work in of larger promise; but for the satisfaction which comes of personal devotion to duty, hard and exacting as that may be, for the knowledge that our aims are based upon the desire to mitigate suffering and to benefit the community, then this profession in which we are engaged has much in it that may be worth the pains expended on it. In spite of its drawbacks and difficulties—and they are neither few nor slight,—I count it good fortune to be enabled to belong to this profession of medicine. I would have you cherish this thought all your lives, for be assured that a life passed in this pursuit is well spent. Anxieties, doubts, disappointments, you will have; but think not that they come to you in greater share than to other men, for if medicine brings with it great responsibilities and all that they entail, it brings also much that compensates for them to those who follow it with their whole heart."

ST. THOMAS'S HOSPITAL.

INAUGURAL ADDRESS BY DR. ROBERT CORY.

THERE are two opportunities offered in these annual addresses which I propose to take to-day. First, that of saying a few words to those about to commence their studies at the hospital; and, secondly, that of considering some more general subject connected with medical education.

Few studies are so interesting as those you will meet with at the outset of your course—viz., chemistry, physics, botany, physiology, and anatomy. From the study of these you will learn how the more simple laws of inorganic matter are involved in the more complex ones of organic life, and how great are the works of Him who maketh all things.

The spirit in which we commence work is the one which gradually grows upon us, so that we should be careful to commence it with the best motives. These should not merely be to attain high places in examinations or fortunes, but we should also labour to advance the knowledge of our profession. In saying this, I do not wish to be thought to condemn examinations. After all has been said that can be urged against them, they still remain as the only means of distinguishing the industrious from the lazy, the clever from the stupid. Moreover, the present is the time for preparing for those degrees which, if you neglect, you may in after-years much regret. The desire for what is fast becoming the empty title of Doctor is so great among many who neglected the opportunity of acquiring it in their younger days that the Brussels M.D. is eagerly sought for. If, then, the title is likely to be of real service to you in after-life, seek the honour now from a university whose degree carries with it something more than the two letters, and means

what it implies—extra time and labour spent in your education.

Are all, then, to aim at the advancement of their profession? Why not? for all can do so. But to do this you must make the spirit of inquiry one of your leading principles. One force that moves you to work must be inquisitiveness. You will then seek to satisfy this curiosity by study, by observation, and by experiment. Besides this spirit of inquisitiveness, there is another which we must make our own—it is that of truthfulness. Nothing can impress us so forcibly with the importance of cultivating these two spirits of inquisitiveness and truthfulness as by noticing how strongly they have been displayed in the characters of all the men who have left their mark upon the history of science, of surgery, and of medicine. Galileo, Harvey, Newton, and Hunter may be mentioned as notable examples. Harvey, by means of experiments on animals, discovered the circulation of the blood; while Hunter's inquisitiveness led him, among many other things, to experiment on the antlers of deer. (The antlers, as some of you may know, are processes of bone which grow from the frontal bone, and, as the periosteum is the source from which the new bone is excreted, the antlers necessarily remain covered with this as long as they increase in size. Besides this covering, they have also the integument which is carried outwards as they grow. As soon as they have attained their full development the covering of periosteum and skin drys up, and is rubbed off, and the antler then consists of bare bone. The covering on the growing antler is called the velvet, and is largely supplied with blood.) Hunter, knowing the source of the blood-supply to the velvet, was curious to know what would be the effect on a growing antler if he ligatured the artery which supplied blood to it. He tried the experiment, and was surprised to find that in three weeks after the operation there was as much blood going to the velvet as before. To ascertain how this could be he had the animal killed and sent up to him, and, on dissecting the part, he was astonished to find that small branches had become enlarged, so as to permit as much blood to pass through these as passed formerly through the main artery. Hunter was not long before he turned his newly-acquired knowledge to a useful purpose. He had at that time a man under him at St. George's Hospital suffering from popliteal aneurism, the treatment for which in those days was either laying the aneurism open and tying the artery at both extremities of the sac, an operation from which only about 5 per cent. recovered, or amputation of the limb. Hunter, remembering his experiments on the deer, thought that if he tied the artery of this man in the thigh he would divert the blood from the aneurism, and the man's leg would still be supplied with blood by the enlargement of collateral branches. He performed the operation and succeeded, and thereby one of the greatest advances in the surgery of those days was made. It may be asked, Are we to set no bounds to this inquisitiveness? It is hard, indeed, to conceive any subject upon which it would be wrong to indulge our curiosity; but although all knowledge comes within our legitimate aspirations, it obviously does not follow that all means to attain that knowledge are also legitimate. Much has lately been said about the rightfulness of experiments on animals. We have seen how the popular sentiment on this subject has been fanned into flame by gross exaggeration, by careless, sometimes wilful, misstatements, by pictorial caricatures placarded about the streets, and the result of this has been the passing of an Act of Parliament which has practically put a stop to the attainment of knowledge through the means of such experiments. There have not been wanting those who, for reasons other than the love of the brute creation, have joined in the battle against science, and have been rejoiced at her discomfiture. Surely it would have been more reasonable to have passed a law against fox-hunting, or some other kinds of sport, rather than against vivisection. What torture can be greater than that of the poor hunted animal straining its last breath for life? And for what object? Merely to give zest to a ride across country. But although fox-hunting be attended with much distress to the hunted animal, yet it does not kindle the ire of many of the opponents of vivisection. Let us not, however, rail against our adversaries without considering their objections. It is stated by them that we have no right to torture, or even to take the life of any animal for our own benefit. This statement, however, is variously qualified. Some would say that we may not kill animals except for the purposes of food; others would allow noxious animals to be killed. As we reason upon these statements the fact soon becomes apparent that the more we try to defend such a principle the greater are the extravagances we are led into, so that we are ultimately bound to admit that animals have not the same rights as man, and that he is justified in making use of them for his advantage, but to what extent still remains to be reasoned upon. That there is a limit no man possessing the common attributes of his nature will deny. That this limit is exceeded when we desire to extend our knowledge by experiments upon them can only be maintained by showing that the knowledge so obtained has previously been of no service, or of comparatively little service to him. Is this true? We have already seen that Harvey vivisected for the purpose of establishing his discovery of the circulation of the blood. That Hunter did the like. Sir Charles Bell was another vivisector, and to him we are mainly indebted for the discovery of the different functions of the anterior and posterior roots of the spinal nerves. Sir Astley Cooper also can be named in the same category, besides many others. A clear instance of useful knowledge resulting from such experiments is furnished by Galvani. From his experiments on frogs and other animals came the knowledge of the galvanic battery. The telegraph and other applications of galvanic electricity need no comment. Another instance of the value of vivisection is seen in the present knowledge of the transfusion of blood. You may ask, perhaps, why have I troubled you with these remarks on vivisection? It is because you will at some future time be entrusted by the State with many responsible duties; but, though the State will expect those responsibilities to be adequately discharged, she has lately taken from us one of the best means of advancing the knowledge she requires at our hands. It is true the present law is not prohibitive, but its provisions are such as to almost extinguish the study of practical physiology in this country. The large deputation which waited on the Home Secretary three years ago to protest against the passing of the law is sufficient evidence of the feeling of the profession on the matter. If we can be trusted by the State with the almost irresponsible treatment of disease, surely it is not too much to ask her to trust us in the matter of vivisection. It is our duty to obey the law, but we can at the same time urge for the repeal of an unjust one, and have good reason to expect with success, when the ignorant clamour that called for it has abated.

UNIVERSITY COLLEGE.

INTRODUCTORY ADDRESS BY MR. G. D. THANE.

THE lecturer expressed his intention of devoting his address to a review of the work that had been accomplished by the Medical Faculty of University College, the occasion being especially appropriate, as the institution had lately completed the first half century of its existence.

When it was resolved to establish a university in London (the present University College), a prominent place was given to the necessity that existed for elevating the character of medical education, and there was offered, side by side with a university training in arts and law, a professional course of study in medicine, far more complete than any to be obtained at the time in the country. The subject had been entirely neglected by the English universities; professional education was not to be obtained at Oxford or Cambridge, and those who graduated there were compelled to pursue their studies elsewhere. In Scotland and Ireland, medicine had always found a home at the universities, and Edinburgh in particular was the great medical school at the time. The requirements of the examining corporations, which have always regulated the character of medical education, were not of a very exhaustive, or, indeed, efficient nature. The student served a long apprenticeship, and then acquired as much scientific and practical knowledge as he could from the lectures and hospital during the one year, or at most two years, of his attendance. In place of this imperfect and unsatisfactory training, the new university offered to its students a complete course, extending over four years, and including all the subjects which at the present day are considered essential parts of a medical education. The subjects were taught by professors, each distinguished in his own branch, and no professor was to teach more than one subject. The courses were long, and the lectures supplemented by frequent examinations. The opening took place on Oct. 1st, 1828. Mr. (afterwards Sir) Charles Bell

delivered the first lecture, and the classes were immediately well attended—in the first year by 165, in the second by 300 students. As was only to be expected, some preliminary difficulties arose, but these were surmounted, and this was soon raised to the first rank among the metropolitan schools, both by the great superiority of its plan of instruction and the eminent ability of its teachers. Among the most distinguished of these have been Jones and Richard Quain, and Ellis, professors of anatomy; Charles Bell and Sharpey, of physiology; Turner and Graham, of chemistry; Lindley, of botany; Conolly and Elliotson, Walshe and Jenner, of medicine; Samuel Cooper and Erichsen, of surgery; Anthony Todd Thomson, of materia medica. The chairs of comparative anatomy and pathology were the first in the United Kingdom, and were occupied by R. Grant and Sir R. Carswell respectively. The want of a hospital was at first severely felt, and steps were taken to establish one that should be expressly devoted to the purposes of clinical instruction. Before this time regular courses of clinical instruction and clinical lectures were practically unknown in London. Here it was for the first time professors of clinical medicine and surgery were appointed with the special duty of training the students in the observation and study of disease, and the renowned Robert Liston was the first professor of clinical surgery. Another weighty reform was introduced at the same time, the offices of dresser, clinical clerk, and house-surgeon were thrown open to the students, to be gained by merit and not by fees, it being the universal custom elsewhere to require the payment of large sums for these offices.

The public advantages which were anticipated from the establishment of this medical school have been realised. The character of medical education has been elevated, its range extended; preliminary general education is now insisted upon; the fundamental sciences receive due recognition, and their study, both theoretical and practical, is enforced, while clinical teaching has been made a reality. This has been in a very great degree the result of the example set by University College and the influence thus brought to bear upon other places. The four years' course, which is now required of every student, is in principle the course planned and recommended here in 1828; the additions to and alterations that have been read from time to time in the curriculum have always been forestalled. Other schools have adopted the methods pursued here, and, in short, the system of medical education which is universal in London now is the system which was organised and carried into execution here for the first time on those liberal principles to which University College has been and ever will be faithful.

WESTMINSTER HOSPITAL.

INTRODUCTORY LECTURE BY DR. DUPRÉ.

DR. DUPRÉ, after some preliminary remarks, in the course of which he referred with deep regret to the death of Mr. Charles Brooke, the late honorary surgeon to the hospital, said the subject which he had chosen as the basis of his address was one which, though perhaps not usually selected on these occasions, was in his opinion of the greatest present importance and interest — the question of education in general and the relation this bore to medical education in particular. As a German by birth and earlier education, and an Englishman by adoption, inclination, and later education—for he considered education to be progressive with our lives,—he could speak with some knowledge of the methods of teaching prevalent among two of the best educated nations in the world. Looking back to his school-days, he could remember the enthusiasm with which the advantages of a so-called technical education, as opposed to the old classical training, was supported by many great scientific men of the day, and foremost among these by Baron Liebig. The effect of this movement was such that, for a time at least, classics were considered only secondary in importance as a factor in education. But a reaction took place, and Liebig himself admitted in after years that among his own students those who had received a classical education were superior to the rest. By education in its highest and widest sense he meant the equal expansion of all the faculties of man, moral and intellectual. The time when men might spend their lives in calm mental contemplation was unhappily, or perhaps happily, past, and the stern and increasing duties of daily life now claimed their energies. From this latter point of view the education of a people might be divided into two categories—firstly, the education of those whose after-life would be spent in manual labour; secondly, those whose activity is destined to be more or less of an intellectual nature. It was this last category which claimed their attention to-night.

If, then, education be, primarily, the cultivation of the intellect, and not the exclusive teaching of some special branch of knowledge, how could its object be best accomplished? Which of the two opposing schools, the technical or the classical, was the right one? No more momentous question could possibly be raised, for the future of generations unborn depends upon the answer. In England the advocates of a technical education were gaining ground. In Germany, as already stated, the victory was more or less with the classical school. Without for a moment denying the educational advantages of science, and believing that no education was complete without a knowledge of science, he could not but express a hope that a similar victory might be gained here. Education, to be complete, should, however, in his opinion, include both studies. In the first instance classical, the nature of the after-training would depend upon the special trade or profession the student intended to follow. The advantage of the study of languages was that it enabled men to express their thoughts. The fact that Shakespeare and Goethe used more words than any writer of their respective nations was full of the utmost significance, and illustrated particularly well this advantage. But, on the other hand, he would point out the corresponding advantages of a scientific training. In the study of natural science, men were brought face to face with the immutable laws of nature. The student of science must therefore be ready to submit his opinion to the proof of experiment, and to abandon his opinion if the verdict goes against him in this appeal. Moreover, he must submit to the opinions of others when those were based on experiment. What valuable lessons were here learned! Absolute adherence to truth, and a just appreciation of the opinions of other men. There was one point connected with education which he felt bound to allude to, and that was tolerance in religion. Germany had set us a worthy example in respecting the religious opinions of parents, and providing religious teaching for all sects in schools. Was not this an example which might be, perhaps, pursued with profit by England, instead of the present omission of all religious teaching?—an omission which we all know did not proceed from the absence of feeling on the matter.

Having thus considered the subject of primary education, he would revert to those students who had commenced, or who were about to commence, their secondary or professional education. Assuming, then, that such a student had arrived, say, at the age of eighteen, having at that age finished his primary education, how shall he proceed in order to qualify himself for the medical profession? The training he will have received, while it has developed his intellect, has imparted but little knowledge which will be directly useful to him in his profession. Good results could only be looked for if good use were made of the time at his disposal. Unfortunately the student is compelled to adapt the arrangement of his studies to the course laid down by the various examining boards. In the case of the Westminster Hospital School, the course of study as laid down by the Dean of the school in the Report was as follows: "During the first two years, anatomy, dissection, physiology and histology, surgical out-patient practice, and instruction in the examination of patients, twice a week each. At the end of the second year an examination must be passed." Though to a great extent an outsider, he would suggest an alteration in the above courses of study. He would suggest that during the first year, or even two years, all their attention should be devoted to the acquisition of the more strictly scientific portion of their education, leaving the practical application—such as examination of patients, &c.—to a later period. Their first chief subjects of study would be dissection, anatomy, physiology and histology, botany, chemistry, and natural philosophy. The latter sciences he would particularly like to see occupying a more important place in their studies than at present. All manifestations of life were more or less governed by either physical or chemical laws. Thus the motion of walking, vision, hearing, and the circulation of the blood, were all governed by physical laws; while respiration and its concomitant production of heat, digestion, the building up and disintegration of the various tissues, and the action of medicines, were all, to a greater or less

extent, chemical phenomena. Though it was possible for a man to be a good physician without a knowledge of chemistry or natural philosophy, still the knowledge of these sciences could not fail to be of the utmost value; and their application to medicine, which is often so entirely empirical, must ultimately raise it to a great science. In excluding from their first year or two attention in the out-patients' room, &c., the course of studies they would thus have pursued would supplement the necessarily classical education he had assumed them to possess, and their general education might then be considered complete. All the subjects, as would be readily understood, might be studied in schools or colleges unconnected with any hospital, and our hospital schools might then be devoted to the more strictly medical and surgical part of their education. In thus separating more completely than is done at present the scientific from the practical, the student would on the one hand gain time for the more minute study of the natural sciences, to the great advantage of his intellectual training, and, on the other hand, when once he began his real professional work, his time would be no longer taken up with what are, after all, auxiliary subjects. The establishment of such separate scientific colleges would have no doubt other considerable advantages. After dwelling on this subject some little time, Dr. Dupré proceeded to compare the medical education in the German universities with such a scheme as he had proposed and also with the system at present adopted. He pointed out that while the English schools were endeavouring to do more justice to the theoretical education of the medical student, the German schools were attempting to improve the practical training of their students. He took this opportunity of giving them a short *résumé* of the German medical examinations as at present adopted. He considered that the perfection of medical education would be reached when both these main factors received their due share of attention. But having brought them to the end of their second year or so, by which time they would have finished the scientific portion of their training, he would not venture to lead them any further, or into the more strictly professional and, from many points of view, most important portions of their studies. He left them in better hands. In conclusion, he advised them to study with a view to the acquisition of knowledge, and not merely to the passing of examinations, and wished them all success in the noble profession they had chosen.

ON THE APPLICATION OF ELECTRICITY DIRECTLY TO THE NERVES AND MUSCLES BY MEANS OF ACUPUNCTURE.

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(Concluded from page 456.)

BEFORE discussing more fully the manner in which electricity thus exerts its recuperative effects, I propose referring to another case in which a similar method of treatment has been adopted, though for a far shorter time. This patient also is at present under my care in the Manchester Infirmary. By occupation he is a labourer, named Thomas K——, aged twenty-five. In following his employment he was exposed to intense cold on the 24th of last December, Christmas-eve—a terrible day, which many of my readers will not readily forget. In various parts of the country the thermometer, in the early part of that day, fell nearly to zero. My patient, while working in the snow, became thoroughly chilled. His feet seemed dead; he could not feel them. He was able to walk home, and, when once there, kept his feet close to the fire. But they remained obstinately torpid; even in bed they were as cold as two stones. This benumbed condition of the feet and legs lasted for upwards of a fortnight. It was attended by severe darting pains in the stomach and abdomen; still, in spite of his sufferings, he regularly followed his employment till the 14th of January. He was able to walk, but he went along like a drunken man; he could not proceed in a straight line. As he passed through the streets the boys laughed at him and pelted him with snow-balls, but he could not run after them nor could he get out of their way, his legs would not allow him. If he tripped against a stone he was sure to fall; and when down, he could not regain his legs. Though he went to his work on the morning of the 14th of January, he was compelled to return home early, and has been laid up ever since. Every day he remained at home he became worse. Though he tried to sit up, his legs kept giving way until they became utterly powerless. On the 27th of January he was admitted under my care into the Manchester Infirmary. At that time there was complete paraplegia extending as high as the upper part of both thighs. Sensation also was perverted. Pinching and pricking conveyed to his mind no feeling of pain. The sense of touch, however, even in the lower extremities, was not lost, tactile as distinguished from pathetic impressions being readily felt. There was, in fact, an analgesia, but not true anæsthesia. Reflex irritation was augmented. It was most easily excited by the application of heat. If a test-tube containing boiling water was brought in contact with any portion of one of the lower extremities, violent spasmodic movements at once occurred. There was also partial retention both of the urine and fæces. As, however, the paralysis extended upwards and invaded the abdominal and a portion of the thoracic muscles, the contents of the bladder and of the rectum were passed involuntarily. At the same time the abdomen was greatly distended with flatus, and, as the diaphragm was partially paralysed, violent suffocating paroxysms at times came on, due to the upward pressure of the dilated bowels upon the heart and lungs. In the anterior portion of the body insensibility to all painful impressions extended upwards on either side as far as the nipple, and in the back reached as high as the eighth dorsal vertebra. A sloughing bedsore also, nearly four inches in diameter (situated over the sacrum), ate its way into the deeper tissues. So long as the more acute attack continued and the temperature was high, the patient was treated antiphlogistically; but when symptoms of irritation were succeeded by those of paralysis, electricity was cautiously tried percutaneously. It was first applied about two months after the commencement of the seizure. At this time the effects produced were entirely due to reflex irritation. So soon as either electrode was brought in contact with any portion of the integuments, violent spasmodic movements were at once excited. These movements were not limited to the leg galvanised, but extended to the opposite limb and to the majority of the muscles affected by paralysis. The patient likewise expressed himself as "feeling worse" after the electric treatment. He felt much exhausted, and thought the disease was passing higher up his spine. Three weeks later I again resorted to percutaneous electricity, but the results were equally unsatisfactory. I therefore waited for another month, and then determined to try the effects of electric acupuncture. But the case seemed wellnigh desperate. The bedsores had increased in depth and in circumference. Complete anæsthesia had succeeded analgesia. The abdomen was still more distended. The lower extremities looked tense and glossy, and pitted on pressure, the subcutaneous tissues being loaded with serous exudation. At this time, when the patient was placed on his side, he involuntarily rolled on to his back again, being so helpless that he could not maintain the unwonted position. On the 26th of April I commenced this mode of treatment. The patient was placed on his face. Ten needles were inserted into the muscles of his back and the lower extremities, two needles being thrust into the dorsal muscles, two into those in the gluteal region in the immediate neighbourhood of the bedsores, two into the upper portion of the thighs, two into the lower, and two into the calves of the legs. All these muscles readily contracted to the galvanic current when subcutaneously applied; they contracted both on anodal closure and on cathodal closure. At first the anode was placed over the upper portion of the spine, where sensibility was intact, while the different needles were successively touched, each for a few seconds, by the cathode. Some muscles, it appeared, reacted more readily than others. Indeed, a current from ten Leclanché cells was sufficient to awaken the irritability of some, while others required a current generated by from twenty-five to thirty cells. It was noteworthy also that certain muscles contracted most easily on cathodal closure, others on anodal; while in others, again, reaction occurred with especial facility on cathodal opening. On

each occasion that the galvanic battery was used in this case the faradaic was also employed—sometimes in the direct method, sometimes in the indirect; and to this current both nerves and muscles were found to respond. Such, then, was the state of this patient when subjected to electric acupuncture some four months ago; no other remedial measures, such as friction or passive movements, were adopted. Ten to fourteen needles have been inserted always twice, sometimes three times, in the week in the manner I have detailed. After the second application of the needles the patient stated that the sense of uneasiness and discomfort which he had experienced in the trunk had very much disappeared. He further remarked that without assistance he could now turn himself over from the supine to the prone position, which ten days previously he could not even attempt. When first acupuncture was employed I observed serum pervaded the subcutaneous cellular tissue to such an extent that it oozed out for a short time after the needles were withdrawn from the calves of the legs. Two or three weeks later, after five several applications of the needles, this dropsical effusion was completely absorbed. The tense, glossy appearance of the lower extremities totally disappeared. It was now possible to make out the atrophied condition of the muscles, which could not easily be effected so long as the anasarca was present. Soon afterwards a marked improvement was observed in the large bedsores situated over the sacrum, in which healthy granulations might now be seen. At the same time, when the needles were acted upon by the electric current, the patient expressed himself as sensible of the contractions induced in his legs; whereas, when the current was first used, he was altogether unconscious of the movements wrought in his muscles. He further observed that, though formerly he had completely forgotten the very existence of his legs, he is now not only aware of their presence, but can discover in them a certain feeling of warmth and vitality. He also tells me that, although he is unable by any effort of his will to move his lower limbs, he can now "try to work them," which formerly he was unable to do. The stimulus of the will, directed in this manner to his legs, seemed to him to impart to them a certain feeling of warmth. I should mention that in this case there was complete palsy of the abdominal muscles; they did not respond to either current applied percutaneously. According to Onimus these are the last muscles to become paralysed. Even here, however, I was able to induce muscular contractility by inserting needles obliquely among the fibres of the external and internal oblique. Since this was done the patient tells me that the distension of the abdomen (which at one time proved so distressing) has now nearly ceased. I should further observe that in front sensation has to some extent been regained, for the anæsthesia, which formerly extended as high as the nipple, does not now reach beyond the umbilicus, and in the back sensibility has been regained in the region that lies between the eighth and the twelfth dorsal vertebræ.

There can, I think, be no doubt but that here we have had to deal with a case of spinal myelitis, and that the general symptoms were, and indeed still are, of a very unfavourable character—so unfavourable, indeed, that I much fear there is very great danger of a fatal termination. Still, it must be admitted that, even though improvement proceeds no further than it has done during the last four months (since electric acupuncture has been employed), that improvement is very remarkable. Moreover, it must, I believe, be set down to the treatment. Certain definite results followed the application of the needles, and the amelioration observed in the symptoms seemed directly traceable to them.

I shall next proceed to consider what are the particular cases for which this mode of treatment is more especially adapted. The examples I have adduced may be looked upon as typical. Whenever there are marked symptoms of motor and sensory paralysis, and when those symptoms are accompanied by changes in the electric irritability of the muscles or of the nerves, whether those changes be quantitative or qualitative, there acupuncture should always be tried. Hence it is peculiarly suited to the more chronic forms of paraplegia, the sequelæ of spinal myelitis or of spinal meningitis, also to the various forms of paralysis which follow injuries of the spine, whether due to wounds, to deformities, to malformation, to tumours, or to concussion. It would also seem specially applicable to certain forms of syphilis, where it is of the utmost importance to maintain, as far as possible, the nutrition and functional activity of the paralysed tissues, until peradventure antisyphilitic remedies shall have had time to work out in the system their specific effects. I believe, also, that this treatment may be usefully employed in many cases of lead palsy. Indeed, in one example of this disease I inserted needles into the arm with beneficial results. In progressive muscular atrophy it may likewise be employed. My friend and colleague, Dr. Dreschfeld, has described to me a very advanced case of this disorder, accompanied by complete anæsthesia. No response, either to the induced or continuous current, could be elicited, so long as the rheophores were used over the outer side of the integuments; but decided contractions to both currents manifested themselves so soon as the muscles of the hand and thumb were penetrated by the needles. Dr. Dreschfeld believes that this patient experienced decided benefit from electric acupuncture, and that the partial restoration of feeling and of motion was, in a great measure, to be attributed to this method of employing electricity. In certain forms of sclerosis I should be disposed also to believe it might prove beneficial. But in infantile spinal paralysis I scarcely think it could ever be extensively practised. Here sensibility usually is but little affected; consequently the operation is likely to be accompanied by more pain than we should be justified in inflicting on the youthful sufferers. Still we might derive useful information regarding the particular muscles, and portions of muscles, smitten by the paralysing lesion, by placing the child at times under the influence of an anæsthetic, and then interrogating the muscular fibres by electric acupuncture. In a word, the remedial procedure I am advocating may be legitimately practised in all disorders of the nervous system, more especially in those accompanied by the so-called reaction of degeneration, in which sensory and motor disturbances have proceeded so far that electricity applied percutaneously gives no results but such as are either negative or dubious. Hence it comes to our aid in numerous forms of paralysis which have hitherto been looked upon as desperate; enabling us to make one last additional effort in grappling with a terrible disorder before we finally consign the afflicted to the hopeless ranks of the incurable.

But, it may be asked, have we any valid grounds for believing that when nerves have undergone extensive degenerative changes, when their medullary substance has become affected by fatty metamorphosis, and the neurilemma also is thickened and hypertrophied, any process of regeneration is still possible? This question must be answered in the affirmative. Carefully conducted experiments, carried out by numerous competent observers, such as Erb, Neumann, Remak, and others, have satisfactorily shown that even when nerves are divided, and the two ends separated from one another by a longer or shorter interval, the gap may be bridged over by fibres of new formation. It is generally admitted that these regenerative fibres commence in the central segment, but others destined to join them occur also at the peripheral segment. Erb observes, in reference to this subject: "It is certain, and of the greatest importance for the pathology of these affections, that regeneration of the nerve-fibres does take place; that a reunion of divided fibres is effected by nervous tissue, and that thus the means of recovery from paralysis is afforded." It has further been proved to demonstration that, in cases of paralysis, muscular fibres are liable to undergo certain definite changes. They become atrophied. They are affected by what is termed waxy degeneration and hypertrophy of the interstitial connective tissue. This induces in them extensive cirrhotic changes; but even here, so soon as regeneration of the nerves takes place, reparative processes also occur in the muscles, which usually follow a retrograde course. When the hypertrophy of the connective tissue is far advanced, it may readily be believed that recovery will necessarily be slow and protracted; still, even after a true cirrhosis of the muscles, a restoration of the fibres to their normal size and state is possible. In dealing with cases of paralysis we must constantly bear in mind these extraordinary reparative changes, which, under favourable conditions, nature herself seems capable of effecting when the powers of the system are in a great measure suspended. When the nutritive processes in certain parts of the body are dormant and cannot fulfil their functions in a healthy manner, some power capable of arousing them into renewed activity is urgently needed. No extraneous influence is so well able to impart fresh impetus to the latent powers of nature as electricity introduced immediately into the tissues by means of acupuncture.

Duchenne in his writings strongly insists that in the electric treatment of paralytic diseases the rheophores should be approximated to each other as closely as possible. In this manner are obtained currents of the greatest density, capable of stimulating the parts to which they are applied to the utmost extent. If, however, a current thus localised is, according to this high authority, so peculiarly valuable, surely that current may be rendered still more concentrated and energetic when needles are thrust subcutaneously into the muscular fibres themselves. This is a still more direct method of applying electricity. It can thus penetrate any portion of the muscles, whether voluntary or involuntary; it can thus directly influence the several nerves, whether motor, sensory, vaso-motor, or trophic; both those structures which lie deep and those which lie nearer the integuments. Duchenne himself remarks, "The thicker the muscle the stronger must be the current, for if the current be feeble, the excitation of the muscles only takes place in the superficial layers." If this be so, there is a manifest danger of the more external fibres being over-stimulated ere a sufficiently strong current is employed to influence those which lie further from the surface, for the effect of the current on the underlying muscles is necessarily weakened by its passage through those which are superimposed. Whenever two rheophores are placed over different parts of the body, the current penetrates the epidermis by one of them, diffuses itself through the tissues for a certain distance, and then gradually converges in the direction of the other. By such ramifications much of its density must be dissipated. Nor is this all. Du Bois Reymond and others have shown that there are, both in nerves and muscles, certain definite electric currents. These currents vary in their intensity and direction. From experiments made on the muscles of animals recently killed, it appears that the direction of this current is from what has been termed the natural longitudinal section to the natural transverse section. It is further found that the greatest amount of electrical reaction is obtained when the natural longitudinal section is placed upon one electrode of a galvanometer, and the artificial transverse section upon the other. Now, it will be seen that when one electrode is applied to the surface of the muscle, and the other is attached to a needle thrust transversely into the very fibres of that muscle, the current passes in that direction in which the greatest amount of electrical reaction is found to be elicited. In endeavouring to understand the striking effects attributable to electricity in such cases as those I have described, we must remember that those effects are partly mechanical, partly chemical, and partly, also, physical. It is a well-known fact that osmotic currents naturally travel in a certain direction, passing from the lighter to the denser liquid. Such, however, is the power of the electric current, that it is able to neutralise this phenomenon, reversing the order of its occurrence, and making the denser fluid flow in the direction of the lighter. If this be possible, we can readily conceive that when the current is sent into the tissues of the body it should arouse the dormant energy of the cells, and, even in cases of extreme serous effusion, should promote absorption. Nor is this all; the continuous current possesses also well-marked electrolytic effects. When, for example, it is passed through a compound liquid, the component substances are separated, and decomposition takes place. In the electrolysis of water hydrogen is evolved at the negative pole, oxygen at the positive. In the decomposition of a salt the bases appear at the negative, the acids at the positive, pole. Surely such influences as these exerted upon the various structures of the body, when traversed by the galvanic current, must be very potent. Then, again, when the circulation is languid, the physical effects may be expected to operate beneficially. For, whether the current be employed directly or indirectly, it will stimulate the vaso-motor nerves and lymphatics; hence the circulation is quickened, the vessels are dilated, while warmth and vitality are communicated to the tissues. It will be remembered that both the patients whose cases I have detailed expressed themselves in strong terms regarding the feeling of warmth which succeeded the application of the needles; in one of the two usually lasting for about twenty-four hours; in the other I invariably find, after the needles have for some little time been inserted into the muscles, and the continuous current passed along them, that distinct erythematous patches can be observed around each one of them, where the skin is appreciably hotter than over the surrounding parts. These are some of the more striking effects which follow the application of galvanism. It is important to bear them fixedly in mind in dealing with cases of paralysis. These effects can, I believe, be evoked in a far more marked manner by electric acupuncture than when the current is employed percutaneously. In one of my cases the amount of serum diffused through the subcutaneous connective tissue was so great that it materially interfered with the passage of the galvanic current. It was found impossible to influence the deeper tissues so long as the epidermis remained intact. When, however, the electric current gained access to these tissues along the needles, not only were the muscles induced to contract, but the œdema itself was very quickly absorbed.

The above remarks refer chiefly to the galvanic current, still in electric acupuncture I always associate with its use faradaic electricity. Schiff believes (and in this opinion he is supported by Onimus) that induced currents only give rise to muscular contractions when they act on the muscles through the medium of the nerves. Where, therefore, the nerves have undergone extensive degenerative changes, muscular contractility cannot be induced by any stimulus acting only on them. Here, however, where farado-muscular contractility is abolished, we may, provided the muscles be not utterly destroyed, induce contractions in their fibres by stimulating them with the galvanic current. Hence, in many forms of paralysis, we use galvanism, in order that it may exert its specific effects on the nutrition of the muscles; faradisation that we may stimulate the nerves, and at the same time direct the patient to endeavour to bring his will to bear on the paralysed limbs—in fact, to exercise his will in trying to make his muscles contract, even though no objective results attend the effort. Erb has expressed the opinion that the axis-cylinder of the nerve is subservient to conduction, and the medullary sheath to the reception of excitations. If this be so, the exercise of the will assists in opening out the path traversed by the mental stimulus, the faradaic current will exert its influence more especially on the medullary sheath, and the galvanic on the various processes which minister to nutrition.

There are various other questions connected with this subject which the limits of this paper will only allow me to touch upon very briefly. What should be the direction of the current? Is the direct or the inverse, the descending or ascending current the more effective in these cases? The reply to such an inquiry must, I think, be somewhat general. No fixed rules can be laid down. Pflüger has shown that when a galvanic current traverses a nerve the excitability of that nerve is increased in the neighbourhood of the cathode; diminished in the neighbourhood of the anode. It may, therefore, be reasonably assumed that in cases of paralysis and anæsthesia, where there is depression of energy, catelectrotonus should, if possible, be induced. On the other hand, when irritability forms a more prominent symptom, the sedative effects of anelectrotonus should be tried. In practice, however, we must not allow ourselves to be too much influenced by these principles. I am myself disposed to believe that very much more depends upon the strength of the current than on the direction. This can be regulated with far greater precision when the current is permitted to pass into the tissues than when electrodes are applied to the outer surface of the epidermis. I believe that in some cases the beneficial effects likely to accrue from electricity are counteracted by the violent spasmodic movements excited so soon as either of the rheophores, or, indeed, any mechanical source of irritation, comes in contact with the integuments. Here I have found percutaneous electricity decidedly prejudicial. The reflex arcs in the spinal cord are liable to be over-stimulated. In this manner inflammatory processes may be aggravated. On the other hand, if needles are inserted into the muscles (and here insulated needles prove peculiarly valuable), electricity can be passed into the deeper tissues without irritating the cutaneous nerves, and so setting up reflex irritation. I have found also that certain well-marked inhibitory effects accompany the passage of the galvanic current along the spinal cord. These effects themselves exercise a restraining influence on reflex action. They lead us to believe that in electric acupuncture we possess a remedy likely to prove valuable in certain forms of abnormal irritability of the spinal cord and medulla oblongata. I would especially insist that much of our success in the treatment of these cases will depend upon the strength of the current which we use. Much harm is done by over-stimulating the affected tissues. We may be beguiled into doing so by observing the satisfaction our patients experience as they watch the

spasmodic contractions of their long-paralysed limbs. Too often this is a seductive manifestation of energy. It exhausts far more than it refreshes. The conservation of vital force rather than the stimulation of vital action should be our main object.

Some persons may be disposed to look on this mode of treatment as formidable and even cruel; so far, however, as my experience goes, the generality of my patients do not look upon the procedure as in any way alarming. They watch with interest the insertion of the needles into their muscles and the transfixing of their limbs; welcoming the return of sensibility, even in the shape of pain, as a longed-for boon.

In conclusion, I would remind my readers that the diseases in which electric acupuncture is likely to prove beneficial require, on the part of the medical attendant, a very large share of perseverance and hopefulness. He must never forget that those reparative changes which alone lead to the restoration of healthy structural and functional activity can only be the slow work of time. No heroic measures must be attempted. Nature may be assisted; she will not permit herself to be forced. He who approaches her in this spirit will be the most successful in his treatment, and will obtain the largest share of her favours.

AN IMPROVEMENT IN STAPHYLORAPHY.

BY JOHN DUNCAN,
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THERE can be no doubt that the proportion of failures in staphyloraphy is considerable. Partial closure is generally accomplished, but very often a great deal remains to be done by second or third operations, and some surgeons have consequently recommended that the union should be brought about only little by little.

Putting aside the difficulties of manipulation, which are prone to result in want of accuracy and bruising, but which care and experience suffice to overcome, the chief cause of non-union is certainly tension. In proportion to the ease with which the flaps can be brought into apposition will be the probability of success. Efforts have been made to obviate tension by long lateral incisions, by the free use of the raspatory, by division of the tensor palati and other muscles, and by osteoplasty. None of these, however, are absolutely satisfactory, because, as I believe, an important anatomical fact has been overlooked.

Those who have had experience of the operation when hard and soft palate are both involved, will agree with me that the failure to unite is most apt to occur precisely at the spot where the hard palate joins the soft. Frequently a little hole remains, while all the rest behind and before it become firmly bound together, and always, or nearly always, that is the spot where separation of the edges first manifests itself. I venture to think that the reason for this is the fact that the soft palate has two layers of mucous membrane, one of which passes forwards under the bone to form the roof of the mouth, while the other passes over the bone to form the floor of the nose. Now while every care is taken by means of the raspatory to separate the periosteum from the bone in the mouth, no attempt whatever is made to loosen the soft parts where they pass into the nose. The consequence is not only tension sufficient frequently to destroy union, but also such a tendency to involution that very often, not raw surfaces, but surfaces of mucous membrane are applied to each other. I have endeavoured to correct this error in the following case, in which the result has been perfectly successful.

C. M——, a boy, aged ten, had been operated on by me for harelip when he was six months old. At that time a fissure cleft the palate from front to back; now the anterior third of the hard palate has firmly closed. I operated for the cleft palate on August 1st, 1879, by the following method. Having pared the edges of the cleft, I made parallel incisions along the alveolar borders, carrying them well back and through them separating the soft parts from the bone. The raspatory was made to pass backwards as far as it would go. It was then withdrawn, and the bistoury which had been used in paring the edges (a long-handled tenotomy-knife) was inserted in its place and made to divide transversely along the posterior margin of the bone the mucous membrane covering the upper surface of the soft palate. In doing so the point of the knife was guided by the forefinger of the other hand, and passed through the cleft. This incision doubtless cuts, as by Mr. Pollock's method, the whole or great part of the tensor palati, and in doing so materially aids our object; but the point aimed at as essential was that the mucous membrane should be completely divided towards the cleft, so that on the re-introduction of the raspatory any fibres of the soft textures still adhering were easily torn away, and the whole palate from front to back could be pressed downwards.

I was much pleased with the freedom gained. Muscular action, indeed, could still be observed, but I do not think it can be abolished by any form of incision, and I believe it may be sufficiently controlled by a little improvement in the method of sewing up which I now put in practice. Besides the usual stitches of silk, horsehair, or silver wire—I have found little advantage in one over the other—I put in a silver suture of relaxation as far outwards as possible at the point of greatest tension, and fix it by means of two small buttons.

A single case of course proves only that the operation is practicable, but the principle seems to me sound, and the relief to the parts was most striking. In some cases, doubtless, the incision might be more easily made by a curved bistoury.

THE ACTION AND USES OF HYOSCYAMINE.

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(Continued from p. 463.)

IT is in the various forms of insanity that the effects of hyoscyamine, as regards the production of sleep and quiescence, have been found to be of the greatest service; but the sum of these effects varies so much in the different diseases of the insane, and they are so altered by the varied cerebral conditions and idiosyncrasies of the patients, that it is only from a gradual accumulation of facts that any precise rule can be laid down for the guidance of its administrators. Nothing is more remarkable and more apt to deceive, in the administration of the drug, than the fact that it acts with such very different degrees of rapidity and potency under varying conditions of insanity. In acute mania with a greatly impaired condition of bodily strength, a small dose (one-sixteenth of a grain) will produce a most marked action, and also in the excitement of senile dementia; whilst in the excitement of chronic mania large and frequently repeated doses are required to produce any effect. In the use of the drug the bodily condition of the patient must always, therefore, be borne in mind. In the treatment of acute delirious mania, although there is a certainty of producing sleep if a sufficient dose be used, yet in these cases there is frequently such a worn-out condition of body, such an entire loss of bodily power, that the physiological action of the dose sufficient to produce sleep may be somewhat hazardous to the vital functions, and hence great caution should be used in giving it. It is in these cases that a small dose produces such very marked effects.

The notes of the following two cases will illustrate the action and potency of small doses in such states.

E. S——, a female aged thirty-three, admitted as a patient recovering from acute mania of a few weeks' duration from another asylum; but she appeared on her admission, from the excitement of the journey, to have completely relapsed. She was thin and apparently much reduced in strength, though she was active and ran and climbed about like a cat, and could not be kept still, whilst she talked without ceasing in a most rapid and incoherent manner. In this condition she remained for two days and nights, without having any sleep, in spite of large doses of chloral. On the third day she had one-eighth of a grain of hyoscyamine at 10 A.M. At 12 she fell down on the floor, after staggering about for a short time, in a condition of stupor. She was placed upon the bed. Her pupils were dilated to their fullest extent;

her respiration became much slower; and her condition was a slightly anxious one; her pulse, however, was fairly good. She remained in this condition for seven hours, at the expiration of which time she awoke, and, although somewhat confused, was quite sensible, spoke rationally, and inquired where she was, &c. She slept well again that night, but her lucid condition gradually gave way to her former state of excitement, which, although not so great as before, was re-established on the following morning. She then had one-sixteenth of a grain of hyoscyamine twice a day, morning and evening, which had the effect of keeping her quiet and giving her sleep. She, however, mentally improved but little, and was removed a short time after her admission.

In the next case—a case of acute mania (of a recurrent form, it being a third attack in six years)—the improvement from the first dose was marked, whilst the recovery commenced and progressed daily from the time of its first administration.

M. P——, aged twenty-nine, admitted on Nov. 19th, 1878. She had been ill for three days, and her condition was far worse than on either of the two previous occasions. Her temperature was 100·2°. She was much excited, singing, laughing, and talking in a wildly incoherent manner. Her skin was flushed, hot, and dry, with a rapid pulse. She remained up to Dec. 2nd, thirteen days, without any improvement; she had become much feebler, very difficult to feed, wildly maniacal, and very violent. On that day she was much excited, had had very little sleep for three nights, and none at all the previous night, in spite of comparatively large doses of chloral and bromide of potassium—viz., thirty grains of each—whilst opium made her far worse. She was ordered one-sixteenth of a grain of hyoscyamine early in the afternoon; after its administration she was still excited for a short time, but in two hours' time went to sleep, and slept for two hours; she woke up much quieter. At night she had twenty grains of chloral; passed a quiet night, and slept for two hours. The following morning she was again excited, but a dose of one-sixteenth of a grain of hyoscyamine gave her again two hours' sleep in the afternoon; at night she had thirty grains each of chloral and bromide of potassium, but, although quiet, had no sleep. On the 4th, as the hyoscyamine seemed to have given her sleep and rest when nothing else would, she was ordered one-sixteenth of a grain twice a day, at 2 P.M. and at 9 P.M., with the result that she slept two hours after the first dose, and four hours after the second at night, twice as much sleep as she had had any night since her admission. On the 5th she was much quieter, and decidedly improving, shook hands, and for the first time appeared to have some idea of where she was. During the afternoon and night with the two doses she slept seven hours. The treatment was continued, and every day she gradually improved; was quieter, took food better, and had from six to eight hours' sleep. On the 8th one-sixteenth of a grain of hyoscyamine was given three times in the twenty-four hours, once in the afternoon and twice in the night if she woke early. It was found that a certain amount of tolerance had been established, and that one dose at night was not always sufficient. With this increase the patient slept well every night; she was quiet, took her food well, gave little trouble, was comparatively lucid in her conversation, and improved in every way. The treatment was continued, and as it was found she slept so well at night with the two doses of hyoscyamine, the afternoon dose was omitted. She progressed very favourably, and on Dec. 16th had become perfectly rational in her conversation, and from that time convalesced rapidly, and returned home recovered.

It may be noticed, in this case, that the dose given was very small. This, in consideration of the feebleness of the patient, was considered advisable, and the results attained showed that it was quite sufficient, and it may be contrasted with the fact that in cases of the same kind of mania, with therefore presumably the same cerebral conditions, but where the bodily condition is much better, three to four times the dose given in this case is required to produce a similar result. It was observed in the treatment of this case, as in others, that when one dose failed to produce sleep, another given at the end of four hours almost immediately produced an effect; and it would appear, when one is in doubt as to the dose required, that it is much better and safer to give a small dose and follow it up in a few hours with another if the requisite effect is not attained, so as to produce a somewhat slow and cumulative effect, rather than a sudden one by the immediate action of one dose, especially where the patient is feeble, and such is generally the rule in cases of acute mania, when received into asylums.

In the excitement incidental to the epileptic status hyoscyamine is pre-eminently useful. It both controls and diminishes the excitement, which is often most furious in its nature, it restricts the time over which it extends, and greatly lessens the number and frequency of such attacks. The following case affords an illustration of the change it produces:—

M. K——, a female, forty-six years of age, suffering from epileptic mania of sixteen years' duration. She had attacks of the most violent excitement, lasting about a fortnight, which recurred every three or four weeks, and she was indeed seldom free from them except for a week or ten days in every four or five weeks. During these attacks she was the terror of the gallery, and frequently was obliged to be secluded during a great part of the time. She would attack anyone on the slightest provocation. Her habits were disgusting in the extreme. She would eat her own excrement and drink her own urine, whilst she had not the slightest regard for decency; tore her clothing to shreds, and her conversation was filthy. She had delusions of various kinds at this time. These conditions of excitement sometimes culminated, though not always, in a succession of fits. About nine months ago, at the commencement of one of her attacks of excitement, she was ordered one-sixteenth of a grain of hyoscyamine three times a day. The effect of the first doses was complete bodily prostration, with all the symptoms of the physiological action of the drug, and entire arrest of the excitement, which, however, returned if the effects were entirely allowed to pass off before a repetition of the dose. She took the medicine (increased to one-eighth of a grain when a certain amount of tolerance was established) for about a month, when she had a violent attack of vomiting, lasting some days, which, however, quickly subsided when the medicine was omitted. A few weeks afterwards she was once more threatened with an attack, but a re-exhibition of the hyoscyamine warded it off. On this occasion also, after persevering with the medicine for some weeks, another attack of vomiting took place. During the whole of the past nine months she has had only three attacks of excitement, which the use of the drug has not entirely warded off; each attack lasted only a few days, and was of a very mild character, so much so that it was remarked by those around her how much she had changed, and what a relief it was. During the whole of this period it was usual to commence giving her one-sixteenth of a grain on the first appearance of the symptoms of excitement; first once a day, gradually increasing to one-eighth of a grain three times a day. At first she was obliged to recur to the medicine every few weeks, and continue for a week or a fortnight, but the periods intervening between the appearance of symptoms of excitement have gradually lengthened, and the last interval has extended over nearly three months, whilst, after a few doses, she reassumes her natural condition. During the times when she is taking the drug her pupils are fully dilated, and she complains greatly of the dryness of the throat and tongue, and there is frequently some degree of incoherence in the speech. The drug always acts very rapidly, dilating the pupils to their fullest extent in a short time. There is no doubt but that the drug produced the attacks of vomiting, which invariably took place if she continued its use for three or four weeks three times a day; but, beyond the inability to retain food on the stomach for about forty-eight hours, it produced no ill effect. This condition has occurred in several other cases after the continued exhibition of the drug; but it has never produced hæmatemesis, although two such cases are recorded.

(To be concluded.)

CASE OF DEFICIENCY OF THE DIAPHRAGM.

BY H. ST. C. CARRUTHERS, L.R.C.P., &c.,
SURGEON MADRAS ARMY.

THE child, whose father is a groom, and whose mother is a grass-cutter, was born on July 18th, 1878. It cried well when first born, but soon began to breathe heavily, the respirations being abdominal, and continuing so till death. On the 19th, at 7 A.M., the mother walked over rough ground, and in the rain, from her house in the 20th lines to Bowenphilly—i.e., a distance somewhat over a mile.

The child was branded with a hot iron on the third day, as is usual amongst natives. On July 26th the mother, taking the child, returned to her own home.

Just before the child's death, which occurred at 7 P.M. on July 29th, she gave it the breast. It made two or three efforts to suck, vomited (the fluid passing through its nose and mouth), and died in her arms.

A post-mortem was made at 5.30 on the 30th. Body and wrists scarred by the irons; no signs of violence; no post-mortem rigidity. On opening the head the vessels were found congested. Nothing else worthy of note. On opening the chest the left lung was found to be pushed upwards and backwards; its lower part barely reached to the middle of the sternum. The upper lobe was quite solid and sank in water. The heart was pushed over to the right side, and all its cavities were full of dark clot. The development was normal. The right lung was also pushed upwards and backwards, and there were patches of it that were unexpanded.

The cause of all this displacement was a mass of intestines, measuring altogether 11 ft. 1 in. in length, and consisting of the whole small and seven inches of the large gut. It had made its way into the cavity of the chest through an opening caused by the defective development of the diaphragm, which was entirely wanting on the left side at the back.

There were no signs of strangulation or inflammation, but the entire mass was enveloped in a delicate and transparent membrane, that formed a sort of bag.

Secunderabad.

FRACTURE OF UPPER AND LOWER JAWS: A NEW MODE OF TREATMENT.

BY WALTER NORMAN, M.R.C.S.E., L.R.C.P.ED.

A CASE lately came under my notice which I think will be of interest to the surgical and dental professions.

Madame S——, a performer on the trapeze &c. in London, met with an uncommon accident, which might have been attended with more serious consequences had there not been a net beneath her into which she fell. On August 23rd, while going through her usual performance, part of which consisted of swinging by a wire rope, with a leather attachment between her teeth, bearing the whole weight of her body (twelve stone) on her jaws, the wire-rope, coming in contact with some other part of the apparatus, became entangled, and then disengaged with a sudden jerk, fracturing both upper and lower jaws, extending from canine to canine in the upper jaw, and including both canines in the lower jaw, the whole depth of the alveolar borders being broken. The teeth and the outer plates were brought nearly at right angles to the maxillary bones. There was considerable haemorrhage for some hours after the accident, but apparently the dental nerves and arteries were intact, as also the body of the lower jaw.

She was immediately after the accident conveyed to the surgery of Mr. Hayes, dentist, St. Martin's-lane, where he and I adjusted the fractures, and, instead of treating the case on what is known as Thomas's principle, with wire sutures, Mr. Hayes took impressions of her mouth, and at once made vulcanite supporting frames, which kept the parts in apposition (without causing any inconvenience) by encompassing low down at the gingival border the whole of the teeth, including the posterior molars, and leaving apertures for the points of the teeth to protrude, except the bicuspids, which were thinly bridged over with vulcanite to keep pressure from the fractured parts. It should be mentioned that there was considerable ecchymosis into the cellular tissues of the neck and lower part of the face, evidently due to subcutaneous laceration by the violence of the jerk.

The case made good progress, without a bad symptom, much to the satisfaction of the patient, who was afraid she would have to lose the teeth affected by the injury. Not having seen any account of treating fractured jaws in this way, I deemed that a record of it would be of interest

SCARLATINA IN CORK.—The deaths from this disease registered during the past five weeks amount to 29, of which number 12 occurred in one district, being more than one-half of the deaths from all causes registered in the district during that period.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tam aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

SAMARITAN HOSPITAL.

ACUTE TUBERCULAR PHTHISIS; ENLARGED BRONCHIAL AND MEDIASTINAL GLANDS; RUBEOLA; PERTUSSIS; DEATH; NECROPSY; REMARKS.

(Under the care of Dr. DAY.)

J. W——, aged five years, a bright, intelligent boy, of pallid aspect, was admitted on June 28th, 1879. For the last three years he had been losing flesh, and becoming very delicate. He was reported to have had a slight attack of measles two years before admission, but never scarlet fever or whooping-cough. During the last year he had been subject to continual cough. The father and mother were healthy. They had had two other children, who died from some wasting disease, probably tubercular, at the respective ages of two and three years.

On admission, the patient had a short, dry cough, coming on at irregular times. It resembled a dog's shrill bark, and was not unlike that often heard in cases where enlarged bronchial glands press upon a bronchus and irritate the recurrent laryngeal nerve. There was marked dulness of a wooden character on percussion below the left clavicle as far as the line of the nipple, and there was not the least expansion on the deepest inspiration. In the axillary region the note was clear, and distant tubular breathing could be detected in this spot; in the infra-axillary region the note was much less clear. Immediately over the spine of the left scapula there was marked dulness, with coarse and moist rhonchus; the breathing on deep inspiration had a blowing character. It then seemed that if a gland were not softening in this region, lung-tissue was breaking down in the immediate neighbourhood. Throughout the right lung, in front and behind, the percussion-note was perfectly resonant, and the respiration full and soft. The skin was moist and the temperature normal; pulse 128; respiration 28. The face was placid; the tongue clean; there were no enlarged cervical glands; the urine was healthy. Though the history was somewhat imperfect, yet as the morning and evening temperature was normal, and the right lung was sound, it was thought this might possibly be a case of old-standing chronic pneumonia, not certainly of a tubercular character.

On the fifth day after admission (July 3rd), when the temperature rose to 102°, it was first suspected that the pulmonary condition was tubercular. There was some heat of skin and catarrhal rhonchus in the right lung, but no dulness. A child in the same ward was found to have measles, and was removed.

From July 5th to the 8th the lowest temperature was 98·6°, the highest 100·4°. The child was taking quinine and tincture of iron. From the 9th to the 13th the temperature varied between 99·4° and 102°.

On the 15th there was still no respiration audible through the left sternal region, but it was heard in the axillary and infra-axillary regions of this side. Posteriorly there was absolute dulness in the supra-scapular space, with bronchophony and bronchial respiration, accompanied with a slight râle. Below this for an inch there was resonance resembling the cracked-pot sound, and loud respiration of a blowing, liquid, bubbling character—signs frequently elicited over a pulmonary cavity which is situated near the thoracic parietes. On the right side the lung was resonant in front and behind; posteriorly the respiration was harsh and rather prolonged. The patient's cough was spasmodic and barking, but he was lively and cheerful, and took his food well. He lay on his left or affected side.

On the 17th (when a second child in the hospital was found to be suffering from measles) there was more cough,

and the temperature reached 104°. There was profuse sweating; pulse 140; respiration 36. Although coughing the greater part of the day, he would go to sleep at 8 P.M., and not awake or cough again till that hour in the morning.

On the 19th the cough was incessant and spasmodic; once or twice it resembled whooping-cough; but it was regarded as the cough of advanced tubercular mischief in the lung. The morning temperature was 99·2°; the evening 104°.

On the 21st an eruption of measles was noticed over his face and his legs, and later in the day the eruption was copious over the nates and back. The child was very drowsy. Next day the eruption had increased, and the temperature was 104·4°, pulse 150, and respiration 32. On the 23rd the temperature was found not to exceed 97·6°, although it was taken four times during the day. On the 25th the morning temperature was 98°, the evening 101·6°. The eruption could now be scarcely seen, although this was only the fourth day of its appearance.

(In another child in the same ward suffering from measles the rash was far brighter on the eighth day of eruption, which is unusual, as it generally appears on the fourth day of the fever, and begins to fade on the seventh day.)

On the 27th there was incessant hoarse cough; very slight whoop. Temperature 103°.

On the 30th the child sweated profusely, and brought up much phlegm. (Weather hot and close.) Temperature 102°. Posteriorly, above the spine of the left scapula, the percussion note was resonant, and the breathing almost amphoric. The bronchophony nearly amounted to pectoriloquy. (A softened gland or a small cavity was diagnosed.) Below the spine of the scapula for an inch the note was very dull, and the respiration was harsh and tubular, but another inch below this the note was resonant with bronchial breathing. There was good breathing through the right lung. The child whooped occasionally, but never violently. He was ordered two grains of quinine three times a day, and some oxymel of squills to relieve the cough.

On August 4th the bowels began to be loose, and the temperature was 103° in the evening. Next day epistaxis commenced, the blood being dark and clotted. On the 6th there was bleeding from the mouth as well as coughing up of blood; bowels very loose; temperature 104·4°. On the 7th he became more exhausted, and died at 2 P.M. An hour before death the temperature was 102°.

The *necropsy*, twenty hours after, was performed by Mr. Alban Doran. The abdomen was discoloured and distended; the body slightly emaciated. On raising the sternum the anterior mediastinal glands, especially on the left side, were found to be enlarged, some to the size of a horse-bean; the pericardium was adherent to the sternum at the point where it comes in contact with the bone. On opening the pericardium, about half an ounce of straw-coloured fluid was found in its cavity, and some shreds of flaky lymph. The heart was quite normal. The right lung was healthy, but slightly œdematous. The left lung was universally adherent to the costal pleura from apex to base, and to the diaphragm its connexion was also very close. The whole lung, on section, showed extensive deposits of caseous tubercle, closely packed in wedge-shaped layers, the bases directed outwards. There were two cavities, one about an inch and a half from the apex, and half an inch in diameter; the second about the centre of the lung, and rather larger. Each cavity contained a fetid mass of broken-down sloughing tubercle. The whole lung (especially its two upper thirds) presented an appearance not unlike a stilton cheese, with the grey and white portions intermixed; enormous caseation in the stage of breaking down. There was an enlarged bronchial gland close to the right bronchus (i.e., on the unaffected side) three-quarters of an inch in length, and very firm in consistence. The liver was pale and firm; the left lobe was nearly the size of the right; there were a few tubercular deposits on its capsule, but none in its substance. The spleen was enlarged and mottled with infarcts, some the size of a small pea, like spots of pus beneath the epidermis. The kidneys were unusually pale, and mottled with patches of congestion both on the surface beneath the capsule (which was perfectly free on both sides) and in the cortical portion, as seen on section. The right suprarenal capsule was normal; the cavity of the left was dilated, containing six or eight minims of turbid fluid, the solid portion remaining apparently healthy. The stomach and intestines were normal, the mesenteric glands unaffected, excepting three close to the parietal attachment of the mesentery that were slightly enlarged but soft.

Remarks by DR. DAY.—This case presents several points of interest. There was advanced tubercular disease of the bronchial glands and the whole of the left lung, yet for four days following admission there was no elevation of temperature. The absence of this symptom might have led to the belief that it was a case of chronic pneumonia affecting the upper portion of the left lung, though the history of failing health and chronic cough for such a long time before admission into hospital was rather against the hypothesis.

Although the urine passed by the patient while in hospital was normal, the kidneys were in all their characters of the "white mottled" variety, generally recognised as a late stage of "Bright's disease." Yet there was not even a distant history of anasarca after measles. The kidneys must have been for some time subject to chronic congestion severe enough to have induced considerable fatty degeneration of the cortical portion. The violence of the cough, which, preventing the return of blood to the thorax, induced congestion of the nasal mucous membrane, accounts for the hæmorrhages, and these, occurring towards the fatal termination of the disease, were doubtless aggravated by an altered condition of the blood.

One point which makes itself most apparent was the chronic or latent character of the disease for three years, followed by its sudden active development.

The case affords a striking example of the supervention of an acute upon a chronic affection, and the rapid downward progress which followed it. But for the complication of measles the case might have dragged on longer, the temperature being normal morning and evening for four days after admission, and the patient being enabled to take a fair amount of food.

The condition of the left lung, the firmness of the pleural adhesions, and the enlarged bronchial and mediastinal glands, prove that the disease was of considerable duration. Another feature of interest was the main concentration of the disease in the left lung, the right lung escaping altogether. This is almost exceptional, considering the patient's age and the diseased state of the bronchial glands, spleen, and mesentery.

WESTMINSTER HOSPITAL.

CASE OF STRANGULATED HERNIA IN A CHILD THREE WEEKS OLD.

(Under the care of Mr. MACNAMARA.)

For the following interesting notes, describing, perhaps, the youngest case of inguinal hernia on record, we are indebted to Mr. Horace Elliott, M.R.C.S., house-surgeon.

Albert J. H——, three weeks old, was admitted on May 28th with a strangulated inguinal hernia. The mother stated that four days before admission, while the child was screaming, a swelling appeared in the right groin. The child was taken to a medical man, who said it was rupture, and reduced it. The hernia came down again the same day, and the child vomited. The bowels were opened before the hernia came down. The child was then seen by a second medical man, who thought the swelling was an abscess, and ordered poultices. Vomiting became constant, the vomited matter being of a yellow colour and offensive. Vomiting had lasted for four days when the child was taken to the hospital.

When admitted, the child was constantly vomiting, the vomited matter being stercoraceous; the bowels had not been opened for three days. On examination a swelling was seen occupying the position of the right inguinal canal and descending into the scrotum; there was no impulse on coughing, and the swelling could not be returned.

Mr. Macnamara saw the child about an hour after admission, and operated on the hernia in the usual way. The stricture was divided with a blunt-pointed tenotomy knife, and the hernia was returned without the sac being opened; the wound was closed with silk sutures.

After the operation the vomiting ceased and the bowels acted in about two hours. The child passed a good night and left the hospital three days afterwards, as the mother was unable to stop longer. The child was taken daily to have the wound dressed for about ten days. When seen a month after the operation, there were no signs of the hernia.

THE QUEEN'S HOSPITAL, BIRMINGHAM.

CASE OF AMPUTATION AT THE HIP-JOINT FOR RECURRENT EPITHELIOMA OF A MID-THIGH STUMP, BY FURNEAUX JORDAN'S METHOD; REMARKS.

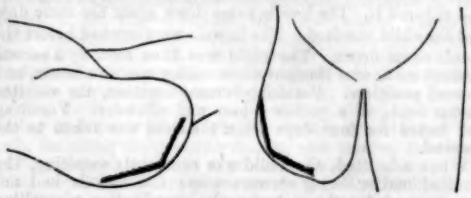
(Under the care of Mr. J. F. WEST.)

EMMA B——, aged forty-six, widow, was admitted on May 19th, 1879. She had previously been an in-patient, and upon reference to the ward journals the following history of her case was obtained:—

"July, 1878. When four years old she was scalded all over the right leg and thigh. The wounds were six months in healing. Eighteen months since a sore formed upon a cicatrix at the back of the right knee-joint, and continued to grow until the present time. To-day it measures five inches by four inches, and has all the characteristics of an epithelial ulcer. On Aug. 24th, 1878, amputation was performed through middle of thigh by a long oval anterior and a short posterior flap. Catgut ligatures and india-rubber drainage-tube were used. The wound was dressed quite dry with stypium, cotton wadding, and bandage. On the following day the temperature rose to 103·4°, but fell afterwards, until at the end of a week it was normal, and did not rise again. By Sept. 20th the wound had been dressed five times, and was healed solidly throughout, except a small point at the external angle, which had a somewhat warty appearance. On Oct. 31st a bunch of enlarged glands were excised from Scarpa's triangle. They were present before the former operation. On Nov. 16th she was discharged, there being still the small warty granulation at outer angle of wound, but quite well in every other respect."

Upon her readmission in May, 1879, she had a well-marked epithelial ulcer, the size of a florin, at the outer part of old cicatrix. Vienna paste, and the actual cautery by means of the thermo-cautère, were applied in succession, but both failed to check its gradual growth. It was therefore decided to remove the whole limb.

On May 29th, under ether, Mr. West performed amputation at the hip-joint. Liston's tourniquet was previously applied, and the patient lost only two or three ounces of blood during the operation. The operation was performed in the following way:—A straight incision, eight inches long, was carried from just above the great trochanter vertically downwards in the plane of the limb, the point of the knife being kept close to the bone. The femur was dissected rapidly from the muscles and ligaments, and enucleated at the hip-joint; a circular incision was then made through the skin, which was dissected back for an inch, then all the soft parts were cut through, about four inches down the limb, by a single sweep of the knife. The parts came accurately together, and formed a large fleshy stump, with free openings for drainage on the outer side. The edges were approximated with silver sutures, and dressed with large sponges, which were kept constantly moist with carbolic lotion (1 to 50).



The operation was followed by profound shock; six hours afterwards there was also five or six ounces of reactionary hæmorrhage, which stopped spontaneously. On the following day the temperature registered 102° F.; pulse 126; respiration 28.

June 2nd (fourth day).—Temperature 100·6°; pulse 104; respiration 22. The stump was dressed for the first time. No union had taken place. The whole tissues inside the flaps appeared to be sloughing; there was free, dark-coloured offensive discharge, but no redness or œdema of the flaps. The parts were dressed with lint dipped in carbolic oil, covered with large dry stypium pads, and firmly bandaged. The temperature in the evening rose to 103°, but gradually fell until the next dressing (100·4°), when it again rose about two degrees. A little rise has taken place at each subsequent dressing, although it is done with the greatest care and almost without pain. The stump is and has been dressed every fourth day.

July 2nd.—It is now solid throughout, and quite superficial. The general health is rapidly improving, the appetite good, and the rest at night undisturbed. The patient will, in all probability, leave the hospital cured in the course of a few days.

The portion of femur removed was about twelve inches in length, while the extent of the soft parts amputated did not exceed six inches. The disease was evidently epithelioma, and involved not only the skin, but also the deep fascia, the septa between the muscles and the muscular tissue itself.

Remarks by Mr. WEST.—The method of amputation at the hip-joint suggested and described by my friend and colleague, Mr. Furneaux Jordan, in THE LANCET of March 22nd, 1879, seemed to me to offer such great advantages over the ordinary operative procedures, that I determined to put it in practice on the first suitable occasion. The result, as shown by the accompanying notes carefully taken by Mr. Jordan Lloyd, our house-surgeon, of my first case of amputation at the hip-joint by this method, was most satisfactory, and I have great pleasure in putting the case on record in THE LANCET. Owing to the important vascular structures on the inner side of the thigh being divided circularly, and not till the last stage of the operation, comparatively little blood was lost, and the danger to the patient from shock or from subsequent pyæmia or septicæmia was greatly diminished. The antiseptic sponge dressing was not as successful as in Mr. Jordan's cases, but I should be sorry to speak unfavourably of it from a single trial, and it certainly has the advantage of disturbing the patient very slightly.

The operation is by no means difficult, and, by those who are in the habit of resecting the hip-joint, is capable of being performed in a few minutes.

EUONYMIN AS A CHOLAGOGUE.

To the Editor of THE LANCET.

SIR,—Having recently made a trial of euonymin in some cases of hepatic derangement with defective secretion of bile, I am induced to offer a few brief remarks on its action as a cholagogue.

Euonymin which has lately been brought into notice by the experiments of Dr. Rutherford as an hepatic stimulant, is a resinous substance obtained from a species of euonymus (Wahoo bark). It differs from most of the ordinary so-called cholagogues in not producing any intestinal irritation, its action on the liver being direct. It therefore does not give rise to the colicky pains and discomfort which so often attend the use of podophyllin, and which tend to prove that the latter drug acts only indirectly on the liver by the irritation it sets up in the duodenum, for which portion of the intestine it has a special affinity. Euonymin is particularly serviceable in cases of hepatic dyspepsia, or what are commonly called attacks of "biliousness," with furred tongue, pale stools, lassitude, and general *malaise*, and under its use the tongue cleans, the stools become darker, and the feeling of languor and heaviness disappears. Its action is slow, and its effects experienced most about forty-eight hours after it has been taken. In too large or too frequent doses it may cause some depression. It may be given in doses of two grains twice or three times a week, in pill, before dinner or at bedtime, or one grain on consecutive days before dinner for about a week. It may be prescribed with extract of hyoscyamus, or better still, with a few grains of the compound rhubarb pill, as it is a feeble intestinal stimulant itself, and requires the combination of some more active aperient, or else the administration of a saline aperient in the morning after. In most classifications of remedies met with in therapeutical works there is no special division made of cholagogues, but those remedies which are supposed to act on the liver are classified under other heads—e.g., podophyllin is included with the cathartics, and perhaps properly so, as this remedy only exercises a secondary action on the liver by catharsis. But euonymin, and probably iridin also, as shown by the recent experiments of Dr. Rutherford, may be considered as true cholagogues or hepatic stimulants, since they act directly on the liver.—Your obedient servant,

Grosvenor-street. W. MAUNSELL COLLINS, M.D.

THE LANCET.

LONDON: SATURDAY, OCTOBER 4, 1879.

THE first consideration which strikes the reader of many introductories is that it would be well if either one address could be given to all the metropolitan students in a central hall, as was suggested years ago, or that the several inaugural functions could be arranged to take place on different days, so that students might have the advantage of hearing all the orations delivered, and so be in a position to benefit by the sum total of the counsel dispensed by the several oracles. Some arrangement of this nature will become necessary if the plan recently adopted of making the introductory a specific lecture on study and teaching is to be pursued. For example, the question raised by Dr. DUPRÉ, the teacher of chemistry at Westminster—namely, whether or not it would be expedient to postpone hospital studies until after the end of the second year, is one which ought certainly to be discussed in the presence of the assembled faculties of the schools, and would probably interest these gentlemen even more than the students; while, since Agnosticism is at least as rife in other schools as at St. Mary's, just in proportion as Professor ST. GEORGE MIVART'S lecture is likely to be useful, it ought to have been generally attended. Our selection of this particular address for publication in full has been dictated by the desire to place the arguments of a determined opponent of scepticism before the general body of students. Other introductories are excellent in their tone and aim, and of more direct and obvious use to the student as a learner, but the particular chain of reasoning Professor MIVART has submitted and the evil with which he essays to grapple must command the attention of all who have any interest in the maintenance of solid truth, a subject which is, in our estimation, one of paramount concern.

It is impossible not to feel that some of the propositions by which the lecturer at St. Mary's has sought to support his argument are open to objections from a scientific standpoint. Thus the assumption that *self-evidence* — which term we understand to mean the quality of being self-evident—must be the "supreme test of truth" is unsatisfactory, because the veriest hallucinations and delusions of the senses may be, and as a matter of fact are, "self-evident" in a certain sense to the man who is their victim. Nor is it always possible to get rid of this objection by excluding morbid instances of ideation from the argument, because it is by the fact that the senses are cheated, the state is known to be morbid; and Professor MIVART would himself be very ready to condemn the process of reasoning in a circle which first inferred the existence of mental disease from the nature of impressions of fact, and then excluded the particular class of "self-evidence" alleged because it was morbid. The factor left out of the argument is precisely that which, in another part of his lecture, the Professor condemns—namely, the verification of experience. In short, Professor MIVART has not, in our judgment, taken sufficient account of the parts which induction and corroborative testimony play in the production of approximate moral or mental *certainty*. It can never be "a supreme test of truth" that a conclusion is "self-evident," or some of the greatest verities of faith and reason would be false! Nevertheless, the general argument pursued in this address is characterised by great clearness and cogency. It will, we hope and believe, be of lasting service to many students in helping them to perceive, at the outset of a scientific career, the folly and onesidedness of the so-called philosophy which discards one of the most powerful and trustworthy of the agencies at the disposal of mind in dealing with the external—namely, common-sense.

At the Charing-cross Hospital, Mr. FRANCIS HIRD, the Dean, gave a concise summary of the nature and uses of the several branches of science falling within the field of the medical student, and impressed on the attention of his hearers some useful hints for conduct and study. Dr. SIDNEY COUPLAND, the lecturer at Middlesex, adopted the same line of treatment for his subject, working it out somewhat more broadly. To one remark on the subject of examinations, in this address, we must take exception. The lecturer regretted that a long interval should be allowed to elapse between the attendance on courses in a particular department of study and the application of examination-tests to determine the attainments of students. We are of opinion that an interval affords a good opportunity for proving the value of the work done. It is of course a drawback that students will perversely neglect the subjects which are not immediately required of them, and this leads to "cramming" later on. In regard to these contingent evils, we are entirely with Dr. COUPLAND, but we doubt whether they are necessary fruits of the postponement which he condemns. Dr. CORY, at St. Thomas's Hospital, discussed the special modes of study and research. Mr. DALBY, of St. George's Hospital, entertained his hearers, and the many who will find pleasure in reading his able address in our columns next week, with a clear and forcible exposition of the influence of study on the mind. Without accepting all his opinions, it is impossible not to recognise the great value of the lesson he has striven to teach. At University College, Mr. THANE recounted the history of the school to which he is attached.

In their several ways and lines of reasoning all these addresses have merits which will be appreciated. The weak point in each is its specific or fragmentary character, as a view taken from a selected standpoint, and necessarily omitting others of equal importance. A single metropolitan address could not, of course, obviate the difficulty of being unable to compress all expedient views into one discourse, but it would enable a skilful lecturer, selected from the schools for his special ability in this work, to take up a more central standpoint, and deal with his subject on a broader footing. We feel strongly that the "introductory" is an institution which ought not to be abolished, but it needs to be reformed, and it might conduce to that end if the schools combined to provide a single inaugural ceremony, which, so far as we can perceive, need not in any way detract from their individual dignity.

WE have received a valuable contribution to the history of enteric fever in India, in the shape of a report by Surgeon-

General KER INNES, Principal Medical Officer of the British Troops in that country, drawn up, apparently in compliance with instructions received from the military authorities, for the information of the Government of India. The subject is one of very great importance, as enteric fever is "pre-eminently *the* disease of which the young soldier dies" in India, is of annual recurrence, and affects almost every corps during its first and second years of service in that country. So completely is this the case that DR. BRYDEN states that of seventy-three regiments and batteries which arrived between 1871 and 1877, nine only remained free from enteric fever in the first twelve months after landing. The report by Surgeon-General KER INNES is so condensed that it is extremely difficult to summarise it without leaving out some important matter. We shall, however, endeavour to lay before our readers some of the most salient points in it. He thus defines the disease: "Enteric fever, described under various synonyms, is a fever of varying degrees of severity and duration, but invariably lasting beyond a week, with the evening temperature over 100°; and characterised by a tendency to abdominal symptoms, looseness of the bowels, the appearance of rose-coloured spots in successive crops, sparsely spread, and pulmonary congestion. The disease is invariably connected with splenic enlargement, an infarction of the Peyerian, solitary, and mesenteric glands, and commonly followed by ulceration, more or less extensive, in the agminate and solitary glands." Some of these characters may not be present in all cases, but, as a rule, they are sufficiently developed to render the identification of the disease a matter of certainty. The author says: "The results derived from a perusal of the reports furnished to this office, as well as my own personal observation of the cases themselves, leave no doubt whatever in my mind that you can, and do, meet with numerous instances of a disease in this country indistinguishable from what is recognised as enteric fever elsewhere, and such as I myself have seen in Great Britain, France, Germany, and the Mediterranean." It has no special geographical limit, extending from the Rocky Mountains to the Himalayas, is a disease rather of rural than of urban population, and is especially one of youth and early manhood. Its prevalence and mortality among our troops are shown from the Army Medical Reports to be—

At home...	·99 cases,	·24 deaths	Per 1000 of average strength.
Gibraltar .	4·04 ,,	·89 ,,	
Malta ...	4·72 ,,	1·57 ,,	
Bengal ...	3·75 ,,	1·53 ,,	

In India, "as elsewhere, enteric fever varies in intensity, ranging from the abortive and mild up to the most grave and fatal form of the disease. Cases of the former are probably never returned at all as instances of enteric fever, but are classified as simple continued fever, diarrhœa, remittent fever, &c." Two of the most powerful predisposing causes of enteric fever are age, and recent arrival in India. The returns for 1877 show that in a strength of 14,625 men under twenty-six years of age, there were 111 admissions and 39 deaths by enteric fever, being respectively in the proportion of 7·59 and 2·67 per 1000; while in 21,731 men of twenty-six and upwards there occurred only 25 cases and 14 deaths, or 1·15 and ·64 per 1000. Then as regards the effect of recent arrival, there were 82 cases and 41 deaths among 8465 men of less than two years' service in India, or 9·68 and 4·84 per 1000, while over two years in the country there were 27,891 men who furnished 54 cases and 12 deaths, or 1·94 and ·43 per 1000 respectively. DR. BRYDEN attaches more importance to recent arrival than to age, for he states that the mortality by this fever during the first two years of service is quite as high among the men from twenty-five to twenty-nine, as among those under twenty-four years of age. The disease is almost confined to the European population, being an exceptionally rare disease among the natives. Thus, in an aggregate of above 308,000 individuals, composing the gaol population of Bengal for the six years 1871–6, there were only 28 deaths by enteric fever returned; and an outbreak of it on a large scale has never occurred in any of the gaols.

It is remarkable that the chief prevalence of enteric fever in India is confined to two periods of the year—first, the end of April or beginning of May, and then frequently reappearing in the end of August; the first being the hot season, when the well water is probably at its lowest; and the second the end of the monsoon, when it is at its highest level. Surgeon-General KER INNES discusses the question of causation of enteric fever in India. He brings strong evidence to show that it cannot, unless perhaps in some rare instances, be traced to importation from England, nor to fæcal contamination of air, water, &c. He observes that "the experience of the connexion of enteric fever with local filth-causes has been elsewhere so constant, and the occurrence of an outbreak or 'household epidemic' of this disease has been so frequent where the circumstances indicated the action of a common cause, or where the sequence of events was such as to leave no doubt of its infectious character, that it would be unjustifiable (except upon the strongest evidence) to set aside such experience in favour of the view that this disease was, in India, attributable to no assignable cause other than youth and climate, heat, &c.; that it was, in fact, a seasoning fever. ..... But it still remains that medical officers have utterly failed in India to trace out the ultimate connexion of this disease with filth-causes or specific infection, with which, according to European authorities, it is invariably associated. ..... While, however, I am very sceptical as to the applicability or adequacy of the causes assigned by European authorities to account for all, or anything like all, the facts in this country, I would, on the other hand, particularly guard myself against being supposed to deny their existence. On the contrary, there is no doubt that enteric fever is an infectious disease, capable of spreading in a community under special circumstances, and of adhering to, and forming part of the medical history of, a corps for a long time, and that many cases are traceable to a common cause, such as contaminated water or organic-laden air. But then the facts will make up a consistent history; the concurrence of cases will be too numerous to be coincidences, but will be indicative of some community of cause, and the evidence will not be wanting, even where we fail to trace the exact cause, to indicate the harmony of the relation of such phenomena one with another."

Details are given of the history of enteric fever in two brigades of Royal Artillery and ten infantry regiments that arrived in Bengal between 1871 and 1878, which bear out the statements with regard to the periods of the year

in which it prevails. Although the disease is widespread over the country, the hill stations enjoy a partial exemption compared with the plains, the admissions having been 2·48 and the deaths ·88 per 1000 at the former, and 6·73 and 3·01 at the latter, on the average of seven years. But this may perhaps be the result of the recently-arrived regiments having been for the most part sent at first to stations on the plains.

As the "practical outcome" of his observations Surgeon-General KER INNES recommends that corps on their first arrival should be sent at once to hill stations (this has often been pressed upon the consideration of the Indian Government on other grounds than the prevalence of enteric fever, but has not yet been carried out); that where the conditions of the climate admit of it, the men should be employed as much in the open air as possible, and dispersed instead of aggregated together; that the arrangements for the supply of water on the line of march and at the rest camps should be improved; that greater uniformity of practice is requisite, in regard to the interior economy of regiments, in the matter of protecting the wells and water-supply, and against what may be termed "chance" pollution in the washing and culinary arrangements, and the milk-supply; that care be taken to avoid, in the case of young soldiers especially, unnecessary exposure at drill &c. in April, May, August, and September, when enteric fever most usually prevails.

He also suggests a "practical experiment, by way of testing the effect of hill stations on the health of newly-arrived corps. Let a small station, such as Chukrata for example, be selected to which a regiment should at once proceed on its arrival at Bombay in the winter season, provide good water-supply, and ensure that its purity is maintained, and see that the conservancy, washing, and cooking arrangements are practically as good as they can be; enlist the co-operation of the commanding and other officers in carrying out the experiment by explaining to them the objects of it, and place the corps in medical charge of an officer specially selected for his intelligence and practical acquaintance with the fever question." By such an experiment valuable data might be obtained to decide whether the partial exemption hitherto enjoyed by the troops at hill stations was due to the climate of these stations, or was merely a result of the corps sent there not having arrived recently in India, and having consequently passed the period of service in that country in which enteric fever usually manifests itself.

To the report are appended tables which enable us to test the accuracy of the leading statements of the report respecting this disease, and which fully corroborate them. We consider the paper a valuable contribution to the history of enteric fever in India, and trust it will be followed by others addressed to the Head of the Department, containing additional information on points connected with the pathology of the disease which would scarcely have been in place in a report prepared for the information of the Government.

WE announced last week that the examination of candidates for the Army Medical Department, which was to have been held in September, was again postponed pending the consideration of the proposed new Warrant. The present state of this important branch of the public service is discreditable to the sagacity of Her Majesty's Government. It is nearly 90 under its authorised establishment of 886 officers. The result is that there is a complaint of want of medical officers in India; there is a considerable number of civilians employed in South Africa and at home on duties which should be performed by army medical officers; there is a difficulty in providing the requisite reliefs for those who have completed their tour of foreign service; and it is impossible to grant the usual leave of absence to the officers of the Department. Who is responsible for this state of things? Two years have elapsed since the head of the Department pointed out the impossibility of getting candidates to come forward under the existing conditions of service. Nineteen months have passed since Lord CRANBROOK appointed a committee to inquire into and report upon the measures necessary to render the service more acceptable to the profession. The report of that committee has been in the hands of the military authorities upwards of fourteen months, and the Warrant founded upon it, after long and we presume careful consideration, has been for more than two months before the Lords of the Treasury, and yet it is necessary to postpone the examination for a still further period. Surely, after all the intricate questions of rank, rewards, honours, and promotion had been settled by the Secretary of State for War and the Field Marshal commanding in chief, the scale of pay and retirement to be granted ought not to present any such difficulties as to require two months' consideration on the part of the Chancellor of the Exchequer. It is true that this is holiday-time for the members of Government and of the House of Commons, and Sir STAFFORD NORTHCOTE is enjoying himself in Ireland; but when so important a question arises as the supply of efficient medical assistance to our troops in the field and in our colonies and dependencies, it would not be too much to expect him to devote a small portion of his leisure to arrange the conditions which Government will be prepared to offer to candidates willing to fill up the vacancies in the Department. The country has a right to expect that her soldiers are well cared for in this respect, and will not be disposed to accept as an apology for neglect that the consideration of the subject was delayed till after the holiday of the Chancellor of the Exchequer was over. In the intimation of the postponement a hope was expressed that the Treasury decision may be given in time for an examination before the next session of the Army Medical School at Netley. We are not very sanguine that this will be the case. The next session begins on Nov. 1st, so that there is very little time to spare if this expectation is to be realised.

THE position of the sensory centres in the cerebral convolutions has been the subject of a series of experiments by LUCIANI and TAMBURINI, who have arrived at the following conclusions. The visual centre in the dog corresponds to an elongated area of the second outer convolution, including the region to which FERRIER assigns the centre for the closure of the opposite eye, and that which he found to be related to movement of the eyes to the opposite side. In the monkey the visual centre includes, not only the angular gyrus, but also a large part, if not the whole, of the convexity

of the posterior lobe. The centre for hearing in the dog is found in the upper and hinder part of the third outer convolution; that of the monkey is probably to be found in the homologous region—i.e., in a zone lying immediately below the visual centre, in the upper and middle temporo-sphenoidal convolution. Both these centres are excitable with electricity in the dog and the monkey, but the effect varies according to the position, degree, and form of the stimulus. It seems to the experimenters most probable that the effects are due to the irritation of special motor centres which are included within the sensory zone, although there is no absolute proof that they may not be reflex effects of the stimulation of the centres, caused by subjective visual or auditory impressions. Unilateral destruction of the visual centre causes, almost invariably, complete amaurosis of the opposite eye, and amblyopia of the eye of the same side. Unilateral destruction of the visual centre in monkeys causes bilateral hemiopia of that half of the retinæ which corresponds to the hemisphere operated on. Hence we may infer that there is an incomplete decussation of the fibres of the optic nerve in the dog, and a semi-decussation in the monkey, whether the crossing is completed in the chiasma or in the corpora quadrigemina. In the retina of the dog the fibres from the two hemispheres are blended at their termination, but in the monkey they are separated. The blindness which results from extirpation of the cortical centres is not only psychical, but consists in a more or less complete abolition of the power of perceiving the retinal images; there is no winking on objects being suddenly brought before the eye, and the action of the pupil to light is lessened. No ophthalmoscopic changes were visible. Bilateral extensive destruction of the visual centres of the dog produces immediately complete bilateral blindness. The complete destruction of the centres in the monkey causes bilateral hemiopia. A similar result follows the extirpation of one or both auditory centres of the dog; in the former case the ear on the opposite side is completely deaf, that on the same side being much less impaired; in the latter case there is absolute bilateral deafness. Amaurosis, amblyopia, hemiopia, and deafness, are, as consequences of cerebral lesions, transient effects, their degree varying according to the extent of the lesion and the time which has elapsed. The effects of unilateral lesion pass away more rapidly than those of bilateral partial lesions, although these may disappear after eight weeks. Whether complete compensation occurs cannot be stated. The compensation after a unilateral lesion is by means of the centres of the opposite side. If, for instance, the interference with sight and hearing on the right side, which has been produced by a lesion on the left side of the brain, has passed away, the destruction of the right centres abolishes the function, not only on the left side, but also that which had been restored on the right side. The compensation after incomplete bilateral destruction is by means of the portions remaining intact. Should further investigations demonstrate the possibility of complete or incomplete compensation after bilateral complete extirpation, the power must be ascribed to the basal ganglia, thalamus opticus, and corpora quadrigemina,—just as, according to the authors, the psycho-motor centres may be compensated for.

Annotations.

"Ne quid nimis."

A PERIL NEAR HOME.

WITHIN the last week grave cases of poisoning by supposed "mushrooms," gathered in Hyde Park and Regent's Park, have fallen under treatment at Middlesex Hospital. The symptoms were urgent, and included violent delirium, though, happily, the patients recovered under treatment. This is a matter of general interest, because it is quite possible that some of the "mushrooms" supplied by costermongers, and even family greengrocers, may be obtained from the same localities; and it is by no means so easy as is generally supposed to distinguish the genuine edible from the poisonous fungus. The public should be warned.

ONE CAUSE OF BATHING ACCIDENTS.

IT is very generally believed that the proper way to bathe is to take a header into the sea, or, at least, to immerse the whole body immediately. Theoretically this may be done so far as the most vigorous organisms are concerned, but it must not be forgotten that a man may be perfectly healthy, and yet not endowed with sufficient latent energy to recover quickly from the "shock" which must in all cases be inflicted on the nerve-centres by suddenly plunging the whole surface of the skin, with its terminal nervous twigs, into a cold bath. For a time, at least, the central activity must be reduced in force, if not in form. When, therefore, a man plunges, and immediately after strikes out to swim, it is not only possible but probable that he may become exhausted, and fail from depression of energy, with cramp. It is important that this should be noticed. We do not think sufficient attention has yet been given to this cause of "accident" in bathing. Cases of exhaustion from remaining too long in the water with a full stomach are understood. That to which we have adverted is not recognised.

THE INCREASED CONSUMPTION OF SPIRITS.

MR. CHILDERS made a most astounding statement in his recent speech in Midlothian. He said that although the increase in the consumption by the people in the article of spirits alone had been sufficient to pay the whole of the votes of credit on the Eastern Question, the votes for the war in South Africa, and the cost of the Afghan war, the Government had imposed upon the country an additional five or six millions a year during the last two or three years. We may leave the political points in this statement to politicians, only expressing our profound regret that so much that is of political significance should gather round the question of alcohol, and hinder the larger considerations of the question. Mr. Childers is not likely to be wrong in his facts. So much the worse for the facts. We find in them confirmation of our recently expressed opinion, that while a considerable section of the people are more temperate than at any former time, the remainder are drinking more. They are foolish enough to drink in spirits alone as much as would pay the votes of credit on the Eastern question, for the war in Afghan and in Zulu! What a prodigious favour to the Government! We only regret that the Premier is not a pathologist. From this point of view alone can he estimate how subtle and intense has been the sacrifice of the millions of this country to facilitate his policy, in pouring into their mouths oceans of spirit to the detriment of all the fine structures that are covered by the word "liver," "stomach," "brain," &c. In estimating the cost of war policies, it is a very inadequate way to consider only the deaths in the army. We shall have to estimate the deaths of those who, for patriotic purposes, soak themselves in spirit, and generate cirrhosis

and other of the many forms of fibroid degeneration. We, medical men, too, will have to consider, when great policies are at stake, how far we are guilty of checkmating them when we advise, as we all now do, alcohol in very diluted forms and in very modest quantities.

THE DAWN OF QUIET.

FOR many years past we have never missed an opportunity of advocating the adoption throughout London of some form of pavement which should have the effect of diminishing the never-ceasing noise which is one of the results of the enormous traffic of this metropolis. There can be no doubt whatever that noise sensibly increases the wear and tear of the body, and tends to shorten life. All stimulation of the acoustic nerve stimulates the action of the heart, and an undue frequency or force of the heart's action means an increased demand on the resources of our bodies. There are good grounds for believing that incessant noise, apart from the fact that it occasionally robs us of our sleep, and in certain states of health drives us into a condition bordering on desperation, tends insensibly to produce fatigue, and thus to exhaust our strength. Our advocacy of quiet pavements has arisen not from any mere longing for luxury, but from a conviction, based on physiological data, that quiet is as necessary for perfect well-being as is sleep or exercise.

It is encouraging to notice that every month sees an extension of the wooden pavements in the metropolis, and we hope we may infer that the parish authorities are finding the expense of these quiet roads not so great as was at first anticipated. Many of the business parts of the town are now, wholly or in part, paved with wood, Bond-street being one of the last thoroughfares which has been thus partially tranquillised. We hope that a similar indulgence will soon be granted to the professional quarters, and we should advise the occupiers of the medical districts of the parishes of St. Marylebone and St. George's, Hanover-square, to move seriously in the matter.

The long stretches of wood- and asphalte-paving which now exist will soon make it possible to introduce a lighter and quieter form of public conveyance. Friction being reduced to a minimum, there will be no longer any need for clumsy carriages, designed mainly to resist the rude bumps and strains caused by deep ruts and huge obstructive paving-stones; and we are glad to feel assured that all need for tramways in the town itself will soon have passed away. In a very little time the whole route from the Bank to Notting-hill will be paved with wood or asphalte, and then we may fairly hope that the General Omnibus Company will provide Londoners with some vehicles made of light wood, bamboo and cane-work, and with indiarubber-bound spider wheels, which might well be drawn by horses unencumbered by huge iron shoes, which cause the animals to fall, and pound the roadway into powder. Example in such matters is better than precept, and we feel sure that to set such an example would be an economical experiment, and would prove a great saving in wear and tear and horse-flesh.

In old days, so Stowe tells us in his Survey of London, vehicles with iron-bound wheels were not admitted within the precincts of the city except between certain hours of the day. Then some regard was had for the peace of the citizens, but now the noisiest of all vehicles are the parish dust-carts, which, being innocent of springs and enormously heavy, go pounding along with a noise like thunder. The railway-carriers' carts, too, seem to be designed with a view mainly to their being noisy. We may fairly hope, however, that before long London will be supplied with quiet vehicles, since noise means friction, and the diminution of friction must lead to a diminution of expense and wear and tear.

There are two sources of noise in London which we think might well be summarily dealt with—viz., barrel-organs and church-bells. The former ought assuredly to be permitted only between certain hours, and should not be allowed to grind out their inharmonious tunes at 11 and 12 o'clock at night. Church-bells in the country, when ringing a peal and mellowed by distance, are charming enough, but the incessant banging and clanging of one or two bells in a confined space in town is simply distracting to the neighbours. One likes to think of old days, when the parson and clerk watched the shadow of the sun-dial until it indicated the hour for church, and then began to toll the bell to call their flock to its religious duties; but in the present day a bell is a noisy anachronism, when every steeple has its clock and every adult member of a congregation has a watch in his pocket, besides several clocks at home. A theatre has as much or as little need for a bell in the present day as a church.

ANESTHESIA UNDER PRESSURE.

IN November last, M. Paul Bert, who is fast becoming a rival of Virchow himself in the distinction he is achieving in the fields of science and politics, described an interesting series of experiments on the facility and safety with which anæsthesia could be produced by administering a mixture of nitrous oxide and oxygen in an air-tight chamber, in which a pressure was maintained a little greater than that of the air; and he has communicated to a recent meeting of the Académie des Sciences some further observations, in which the subject is transferred from the domain of experiment to that of practical surgery. Commonly, to obtain anæsthesia under ordinary atmospheric pressure, it is necessary to administer pure nitrous oxide, and the gas can only be employed for operations of short duration, for asphyxia threatens the patient as soon as sensibility disappears. Hence this method has remained almost exclusively in the hands of the dentists, who have employed it with safety hundreds of thousands of times. The method proposed by M. Paul Bert, however, permits the use of this anæsthetic agent for operations of considerable duration. Two surgeons, of the Paris hospitals, have responded to the appeal of M. Bert to permit a trial of the method, and the object of his recent communication was to relate to the Académie the particulars of its employment in these cases. He described, first, the case of the removal of a nail by M. Labbé. The patient was a young girl twenty years of age, timid and nervous. In a closed chamber of sheet-iron the pressure of air was increased ·17 m. (total pressure ·92 m.) The patient lay upon a mattress, and M. Préterre applied the nose-piece of the apparatus, which he employs for the administration of pure nitrous oxide, connected with a bag containing a mixture of 85 parts of nitrous oxide and 15 of oxygen. The pulse was, before the administration, rather rapid, when suddenly, ten or fifteen seconds after the first inhalation, without any change in the pulse, respiration, or colour of the skin, without any agitation or excitement, the arm became thoroughly flaccid, insensibility and muscular relaxation were complete, the cornea could be touched without winking. The operation was commenced and completed, and the dressing applied, without the least movement on the part of the patient, who kept in a calm sleep, the pulse having fallen to the normal frequency. At the end of four minutes, when the operation was over, slight contractions occurred in one arm, and then in the leg. The mouthpiece was removed, and the contractions ceased. The patient continued to sleep for thirty seconds, and then was readily awakened, and stated that she felt well and was very hungry, and remembered only a sensation of "grand bien-être," produced by the first inhalations. She seemed "to mount up to the sky, which she saw blue with stars." She was able

to walk, took food almost immediately, and complained of no unpleasant consequence.

The details of this case are interesting, as showing the quickness with which the anæsthesia was produced and with which it passed off—a striking difference from the effects of ether and chloroform. Much more important operations, sixteen in number, have been performed by M. Péan—three amputations of the breast, four operations upon bone, six extirpations of tumours, a resection of the infra-orbital nerve, and two reductions of dislocations of the shoulder of three and four days' duration. The anæsthesia was maintained for periods varying from four to twenty-six minutes. The time occupied in producing anæsthesia varied from fifteen seconds to two minutes. Complete return of sensibility took place commonly in one minute; sometimes a slight degree of analgesia persisted for one or two minutes more. In one operation a slight accident permitted the patient to take one inspiration of the external air. She immediately began to talk, but complained of no pain. The first fresh inspiration of the gas arrested her speech instantly, and she did not, after recovery, remember the incident. The pulse and respiration were sometimes quickened at the commencement of the inhalation, but it was difficult to say how far this was due to the action of the gas. With insensibility the normal frequency was always resumed. In most cases the patients did not complain of any feeling of malaise on leaving the apparatus, and when the operation had not been of a serious character, they frequently walked and asked for food. In three cases there was some subsequent nausea, but in each of them india-rubber mouth-pieces or new india-rubber bags were employed, and it is possible that the nausea should not be attributed to the nitrous oxide. A more frequent and unpleasant accident is the appearance of spasm in the limbs. M. Bert is sure, however, that this is due to the pressure under which the gas is administered being insufficient. An increase in the pressure of ·02 m. or ·03 m., which could always be instantly obtained, sufficed to arrest it in every case.

The excess of pressure employed varied between ·15 m. and ·22 m. In one case of reduction of a dislocation of three days' duration, in a dealer in alcohol, it was necessary to employ an excess of pressure of ·26 m. before insensibility and muscular relaxation were obtained, and yet the patient spoke during almost the whole of the operation. Thus the employment of compressed air permits the modification of the dose of the agent with the greatest facility. It is a difficult thing to change the proportion of a gaseous mixture, but a very easy thing to alter the tension of the chamber, and so the dose of the anæsthetic.

M. Bert, in conclusion, maintains the superiority of his method over the compounds of hydrogen with carbon and chlorine in the following particulars:—(1) by the absence of the period of initial excitement which is often so unpleasant and sometimes is even dangerous; (2) by the confidence and tranquillity which it gives to the surgeon, who is sure that the dose of the anæsthetic will not change during the operation, and that, in consequence, the patient has nothing to fear; (3) by the almost instantaneous return of complete sensibility even after twenty-six minutes of anæsthesia, so that, if it is desired, the patient may be awakened at a certain period of the operation, and immediately put to sleep again; (4) by the common absence of malaise, nausea and vomiting, so frequent and tedious after the use of chloroform and ether; (5 and lastly according to the experiments which have been performed upon animals, and the cases in which it has been used by man, the perfect safety of the method. He believes that the material difficulties will not prevent the adoption of the method, especially since Dr. Fontaine has invented a movable chamber, which is suited to the purpose. His estimate of its relative advantages, however, must be considerably modified if we compare it, not as he does, with pure nitrous oxide, but with the mixture of nitrous oxide and ether, which Mr. Clover has found so valuable, and which possesses several of the advantages of M. Bert's method, to which the necessity for an air-tight chamber is a serious practical drawback. It is very desirable that the method should be fairly tried, and one of our scientific bodies who have the power of granting sums of money for investigation could hardly apply a grant to a better end; but the advantages of the method will have to be signal and incontestable before we can expect air-tight chambers to be introduced for operations in our large hospitals, while it is doubtful whether the procedure is capable of practical employment outside hospital walls.

SUBSTITUTES FOR POTATOES.

WE are threatened with something like a potato famine, and those who remember the similar disaster in 1846 do not need to be told how grave is now the prospect, with a vastly increased population, and a state of depression in trade which signifies on the part of the masses a great difficulty in providing even the commonest and cheapest necessaries of life. Many and well-intentioned are the suggestions which are being made with the view of providing substitutes for the potato. The French *haricots blancs* or *flageolets*, lentils, rice, maize, and oatmeal, are the substances which are brought most prominently forward as being fit to replace the favourite tuber. In one respect—the quantity of nitrogen which they contain—they all, but especially the leguminous examples, greatly surpass the potato as an economical nutriment. But, unfortunately, they are all deficient in antiscorbutic elements. Under a diet of these substances, either alone or with the trifling amount of fresh animal food which is all that tens of thousands of persons can obtain, scurvy would be as rife as it was in Ireland and North Britain in 1846-47. Nevertheless all these foods are very valuable, and it only needs that the particular point in which they fail should be recognised and supplemented. If this be not done disease must ensue, and the nutriment fall into disfavour. Any of these substances may be used with advantage where either an abundance of milk forms part of the dietary, or the antiscorbutic element can be furnished by fresh green vegetables, onions, or the juice of oranges or lemons.

EPIDEMIC DISEASE IN JERSEY.

A VERY well known charitable institution in Jersey, called the Female Orphan Asylum, has lately been the scene of two distinct outbreaks of epidemic disease. From particulars kindly furnished us by a resident at St. Heliers it appears that the establishment is situated in the parish of Grouville, standing on a tract of very slightly undulating ground. The subsoil is sand to a depth of some fifteen or twenty feet, with a layer of large gravel resting on granite. Enteric fever broke out rather suddenly on May 19th last, at which time there were 150 persons in the house, 140 being children (all girls) of various ages, and the rest, including the matron, consisting of grown-up girls acting as assistants, &c. Up to the beginning of the past month a total of forty-five cases had occurred, six having proved fatal. No evidence is at present forthcoming as to the importation of the disease, but the Committee of Management have requested Drs. Dunlop and Morison to institute an inquiry. There has been very little typhoid elsewhere in the island, and, a few months before the outbreak in question, the well on the premises is stated to have been thoroughly cleaned out and cemented. Moreover, as soon as the outbreak commenced, Dr. Le Rossignol, who has medical charge of the establishment, ordered this well to be closed, and procured a supply elsewhere, as the water when analysed

was found to contain a large amount of organic matter, and that also from a new well sunk on the premises was found unsatisfactory in quality. The children, though instructed to go to earth-closets, which had been in use for eighteen months, frequently defecate in the urinals, which latter drain into an unbricked and uncemented hole, called by courtesy a cesspool, within sixty feet of the old well. There seems to be no doubt that the building is much overcrowded, and that the ventilation is defective. The nursing also was found to be very faulty, for on August 10th, when a child was discovered ill with measles, no one could be found to act as nurse, so that another girl was appointed to the post, who naturally enough soon caught the disease, which spread rapidly, and quickly numbered 51 cases, 11 of which proved fatal. The medical officer in charge urged repeatedly that proper nursing aid should be procured, but no properly-trained person appeared on the scene until both epidemics were dying out. The Sanitary Committee of the States have appointed Drs. Le Cronier, A. Godfray, and H. C. Taylor to inquire into the causes of the outbreak, and we hope soon to be able to publish a summary of their report.

MUSCULAR CONTRACTURES.

AN interesting note upon this subject by MM. Brissaud and Richet has been communicated to the Académie des Sciences. The authors define "contracture" as a "more or less permanent shortening of a muscle, from which it cannot be released by voluntary influence." In hystero-epileptics the contracture of a muscle may be excited either by tension or by strong contraction. Whenever one of these patients contracts a muscle with sufficient force, the muscle remains in contracture. The condition may be observed in several muscles. It may be produced most readily in the triceps, but also in the biceps, the flexors and the extensors of the fingers, the deltoid, the muscles of the thenar eminence, the sterno-mastoid, the orbicularis of the eyelids, the peronei and the soleus; and it is probable that it may be produced in the other muscles. The phenomena cannot be elicited with the same readiness from all hysterical patients. They are the more marked in proportion to the degree of hysterical affection. If the muscles in the normal state are stimulated by electricity, and the contractions are recorded by the graphic method, it is found that the contractured muscle is still capable of contracting under the stimulus. This shows that the state of contracture is one which is intermediate between physiological tetanus and relaxation. Careful examination has shown that the muscle, whether in a cataleptic condition or contractured, is almost as excitable to electricity as under normal conditions. In order to arrest the contracture it is sufficient to cause the antagonistic muscles to contract, as M. Charcot has shown. It is also sufficient to rub with the hand the tendon of the contractured muscle at the same time that gentle tension is applied. It would appear, therefore, that between the fleshy mass of the muscle and its tendon there is a certain antagonism, so that the excitation of the muscle causes contracture, and that of the tendon relaxation.

It is probable that this contracture is reflex, just as the muscular tonus is a reflex action proceeding from the muscle and returning to it. It may thus be admitted that the contracture of a muscle is due to the excitation of the centripetal nerves of this muscle—excitation which may be produced either by contraction or by muscular tension. This is proved by a simple experiment. If a limb is rendered anæmic by bandaging it systematically with an elastic bandage, at the end of a variable time, twenty to thirty minutes, the muscles, deprived of blood, no longer contract under the influence of the will, and at the end of an hour and a half the electrical excitability of the muscle has completely disappeared. But the contracture passes away much more rapidly, in five or six minutes, before the voluntary power or muscular irritability presents any sign of diminution. Under these circumstances, however, the contracture returns in full degree as soon as the circulation in the muscle is re-established.

There is thus in the relaxed muscle a true latent contracture. The phrase is somewhat paradoxical, but indicates precisely the fact, that the muscle being strongly excited by the motor nerve and by the spinal cord, cannot pass into a state of contracture on account of its condition of anæmia.

One of M. Charcot's patients presented a feeble contracture, but it was excited by the slightest muscular effort. This form is allied to catalepsy, and presents a transition between catalepsy proper (flexibilitas cerea) and contracture.

PERPETUAL TICKETS.

AT most of the London Medical Schools the system of granting perpetual tickets to classes still exists. According to the regulations of several corporations, students have to attend more than one course of lectures on several subjects, and instead of granting tickets admitting the holders to two years' attendance only as required, students are given tickets which admit them to lectures for ever and a day. This is not only unnecessary but positively harmful. Students are often induced to be irregular in their attendance because they know that they can hear the lectures at any time, and as often as they please, and it is the way by which the men who are the bane of their schools, who stay on from year to year without progress, idle, dissipated, and a source of demoralisation to the other men, are enabled to keep connected with the schools. If for no other reason than as a means of getting rid of these men, who make no attempt to profit by their teaching, and whose hope of doing any real work or good in the world is but a dream of the far-off future, these perpetual tickets ought to be abolished, and tickets granted for just such attendance at lectures as is requisite or desirable for the students who are working for the most rigorous examinations. If this were done there need be no hardship to the industrious men, for any lecturer would be quite willing to give them any additional help they might require without extra fee; while the idlers would be unable to waste more than a given definite amount of their teachers' energies.

PUBLIC HEALTH IN SWITZERLAND.

SWITZERLAND publishes carefully prepared and well-arranged vital statistics, which afford satisfactory materials for estimating the sanitary condition of its population. The annual report for 1878 has just been issued, from which it appears that the marriage and birth rate showed, as in most other European countries, a decline from the rates in preceding years. The marriage-rate, which was equal to 18·0 per 1000 in 1875, has since steadily declined to 14·8 in 1878, which was 0·5 per 1000 below the rate in England and Wales. The birth-rate in Switzerland declined from 32·9 and 32·1 in 1876 and 1877, to 31·5 in 1878, which was 4·7 per 1000 below the English rate. The rate of mortality in Switzerland, in 1878, was equal to 23·4 per 1000 of the population, estimated at 2,792,264 persons. This death-rate was almost identical with the average death-rate in the four preceding years (23·5), but was 1·7 above the death-rate in England and Wales during 1878. The rate of mortality from the seven principal zymotic diseases was equal to 3·14 per 1000 in Switzerland, against 3·32 in England and Wales. It is evident therefore that the excess of mortality in Switzerland, compared with that in England, must be explained in another way than by an excessive zymotic

fatality. Infant mortality in Switzerland, measured by the proportion of deaths under one year to births, was equal to no less than 191 per 1000 in 1878, whereas in England and Wales it did not exceed 153 per 1000. It is evident that a considerable portion of the excess of mortality in Switzerland, compared with what prevails in England, is due to the greater fatality among infants. If of each 1000 infants born in England 38 survive the first year of life, who would have died had they been born in Switzerland, it is evident that the mean duration of life among the Swiss population must be considerably affected. The mean duration of life, which can only be ascertained by the construction of a life-table, is the only true test of the sanitary condition of a population. The Swiss report does not give the estimated population living in 1878 at each of the five groups of ages adopted in the report, or else it would be possible to calculate the rate of mortality in the several groups. Although in populations increasing by excess of births over deaths the death-rate requires correction for the proportional age distribution, it may be noted that the difference between the Swiss and English death-rate in 1878, if it were maintained, would signify a mean duration of life equal to 46 years in England and to 43 years in Switzerland. The sanitary condition of the several cantons of Switzerland, judged by the mortality statistics of 1878, differs very considerably; the highest death-rates were 30·7 in Uri and 31·7 in Appenzell. In Basle it was equal to 26·7. The sanitary condition of these cantons implied by their high death-rates, and the excess of infant mortality, in great measure explain the excess in the general rate in Switzerland.

GALEN AND THE CIRCULATION.

M. REVILLOUT, whose researches into the history of medicine in its early days are well known, lately read to the Académie de Médecine an instructive study of Galen, and especially of his views on the circulation of the blood. As an experimental anatomist, making most important discoveries by this method, and as pre-eminent among his contemporaries, M. Revillont compares Galen to Claude Bernard, although it will seem to most that the truer resemblance is to Harvey. In his "Uses of Parts" Galen showed himself a systematic theorist, as well as careful observer, and he connected his discoveries with deductions based on the conception of a preordained plan, a method into which he was led by the force of circumstances. The dissection of human bodies, probably permitted at the time of Celsus, was certainly forbidden when Galen thought and wrote, and the laws of the human body could only be inferred from those of comparative anatomy and physiology. Galen sought these laws by the dissection of a multitude of animals of different species, mammals, birds, fishes, and reptiles; and Cuvier subsequently availed himself of the exact descriptions of Galen. In his physiological investigations he employed, with great success, methods which are sometimes believed to be of quite recent origin—the separation of nerves at their roots, their transverse ligature, the division of the spinal cord at different levels, the ligature of arteries, &c. He made numerous experiments to prove that the arteries contain blood and not air, as Erasistratus had maintained. He demonstrated, on living animals, that the left ventricle and pulmonary veins contain aerated blood, although after his time nomenclature stereotyped the theories which he contested. He devoted a book to this subject, and is continually returning to it in his writings; and he defied anyone to prove that the pulmonary veins contain air and not blood. He described most accurately the mode of action of the pulmonary valves, ascribing to them their function of preventing the reflux of blood, and describing their function in words which the physiology of to-day cannot improve upon. He described the mixture of blood and air as occurring in the lungs, and indicated the general direction of the current of blood as being between the vena cava and right heart, between the right heart and the lungs, without possible reflux, between the pulmonary artery and the veins, and between the latter and the left side of the heart. He recognised the direction and purpose of the sigmoid valves of the aorta. The passage of the portal blood to the vena cava through the liver was universally admitted, and thus Galen had a clear idea of the direction in which the blood moves in the whole circulatory apparatus. He had even accurate conceptions of the two great anastomoses which permit the blood to pass from the right to the left sides in the fœtus. Galen insisted on these anastomoses, just as he insisted, in comparative anatomy, on the law according to which the right heart disappears in animals in which the lungs are wanting. All this is so exact that it is astonishing that so many centuries passed before the false theories were dispossessed.

SURGEON JOHN WYER.

A PENSION of £100 per annum for distinguished and meritorious service has been conferred by Her Majesty the Queen on Surgeon John Wyer, H.P., late 19th Foot, of Whitechurch Canonicorum, Dorset.

Mr. Wyer entered the Army Medical Department as hospital assistant in February, 1811. He was at once sent to Coimbra, where he attended the wounded from Busaco. He served until the end of the Peninsular war on staff, and with the 88th Regt., and received the medal with five clasps for Vittoria, Pyrenees, Nivelle, Orthez, and Thoulouse. After the termination of the war he embarked for Canada with the 88th, and was present at the taking of Platzburg. He returned with his regiment in May, 1815, and touching at Portsmouth, was sent on without anchoring to Ostend. He missed Waterloo by a few days only, and went to Paris. The 88th formed part of the army of occupation, remaining in France for nearly a year. After his return to England he was placed on half-pay for some years. Resuming active service in 1824, he was sent to the Cape of Good Hope, and served in the colony until 1831, when he returned to garrison duty at Chatham and in Ireland, where he was gazetted surgeon to the 74th. With this regiment he went to the West Indies, was transferred from it to the 19th, with which regiment he returned to England in 1836, and was eventually placed on reduced pay on account of illness in 1840. Surgeon J. Wyer volunteered for the Crimean war, and was examined by a medical board, but his services were not accepted. He was a private pupil of Mr. (afterwards Sir) A. White, and studied at the Westminster Hospital.

THE CAPE TOWN "BRIGHTON."

KALK BAY, according to local accounts, would appear to be "a fashionable and health-restoring resort," frequented by the Cape Town community, and regarded as "a Colonial Brighton." Here there has recently occurred an outbreak of sickness, attacking over fifty persons, of whom seventeen had died at the time of the latest news, and which is believed to have been caused by eating the flesh of a certain cetacean, familiarly termed the "killer-whale," and which is usually regarded as wholesome. Pending a scientific decision on this subject, the *Cape Times* despatched a reporter to the spot, and he raises the veil from the conditions under which at least the fishing population of this "Colonial Brighton" live. He describes this population as living generally in well-built houses, with well-ordered interiors, but, from the absence of any means of procuring the removal of house-refuse, surrounded with the accumulated filth of years. "These houses are on the hillside, above the very centre of the village; and close to the muck-heaps were numerous graves, in which the dead but too often had

only, we are assured, a couple of feet of earth above their rude coffins. And some of the houses depend for their water-supply upon the water which soaks the ground of sepulture." After visiting some of the more closely packed houses, this writer adds: "The afternoon was a bright one, with a fresh, almost keen, breeze from the sea, but the atmosphere of these ill-ventilated rooms was more suggestive of fever than the narrow streets and the crowded houses around the swamps of Zanzibar on a summer's night." The reporter, finding local conditions of this sort, is obviously not disposed to accept hastily the theory of "fish-poisoning" in explanation of the outbreak of disease.

YELLOW FEVER AT HOME AND ABROAD.

A REPORT, that created some alarm for a few hours, arose in the West India Docks on Monday last, to the effect that a case of yellow fever had arrived and was on board a vessel called the *J. P. Larsen*, just arrived from Calabar. The patient was, however, speedily removed, under the direction of the port sanitary authority, to the Seamen's Hospital at Greenwich, where the disease was pronounced to be "West Coast" fever, or, rather, its sequelæ; and it appeared also that another sick sailor from the same ship was affected with scurvy. It is a pity that sensational reports of this kind are originated through official channels; for it is well known that yellow fever cannot continue to exist in a temperature under 75° F.; moreover, if the case had been really one of yellow fever, the vessel should have been stopped at Gravesend by the Customs officers.

We have received a somewhat lengthy account of a case of this disease from the pen of Dr. A. Jover, of Madrid, who had medical charge on board the *Solent*, one of the vessels of the Royal Mail Steamship Company. Frontal headache, pain in thighs and legs, diarrhœa, and suppression of urine, with a temperature of 103° to 104° F., were the leading symptoms, which gradually became more intense, and were followed by muttering delirium, some vomiting, and death. The vomit was dark and bilious in character, and the stools were very offensive. Dr. Jover thinks that the case should be classed as one of yellow fever, but remarks in his letter that "none of the characteristic symptoms of the disease were present." We leave our readers to determine the point.

THE SALE OF DISEASED MEAT.

THE guardians of the North Dublin Union have detected a danger of undoubted importance, and, in discussing this matter, have displayed a considerable amount of sound sense. The query was put as to what became of the diseased cattle slaughtered every week. During the week ending Sept. 20th £56 had been awarded to the owners as compensation for their slaughtered cattle. Six of the carcases had been sold to veterinary surgeons for £15. It was also declared that some butchers were purchasing killed beasts at 5½*d.* per lb., and the question was asked where the meat at this price was obtained. It was further argued that by deducting the £15 received for the sale of the diseased carcases from the £56 compensation awarded there remains £41, but as one-half of this sum comes from the Treasury, by selling the carcases the ratepayers had saved only £7 10*s.* For such a trifle it was not worth while running the risk of the diseased meat falling into the hands of small butchers, who would sell it as beef, and gravely compromise the public health. This reasoning was all the more apposite as small cattle-owners have, of late, been put to great expense and inconvenience, so that the most recent sanitary regulations might be carried out. Under such circumstances, the authorities themselves should not be too eager to save insignificant sums, particularly if we add to this consideration the action that the guardians had just taken against the Government. It was said by some of the guardians that when a case of pleuro-pneumonia occurred among the cattle grazing in Phœnix-park it was the practice to drive the animal to Whitefields, and declare this portion only of the park to be infected. The Government are therefore accused of offering a very bad example by thus systematically evading an Act of Parliament, and the following resolution was unanimously adopted:—

"That in consequence of the repeated cases of pleuro-pneumonia which have occurred in the Phœnix-park, and it appearing to the local authority that a practice exists by which diseased cattle are driven from other parts of the park to Whitefields before reporting the cases to our inspector, the local authority, acting under the power conferred on them in Sec. 16, chap. vii., of the Contagious Diseases (Animals) Act, 1878, hereby declare the whole of the Phœnix-park to be an infected place."

We have not yet heard what defence the persons in charge of the cattle can make, but this is not the first time complaints have been uttered against them, and notably when the new regulations as to the sale of milk were brought into force. In any case it is most lamentable that those who have in hand the management of Government property should lay themselves open to the suspicion of evading the law of the land.

COLONIAL SANITATION.

AFTER much opposition and many delays the Legislative Assembly of the Cape have at length introduced a Public Health Bill, a copy of which, as amended in select committee, we have just received. It consists of three parts and twenty-one sections, and is, in fact, arranged very much in the same way as our own Public Health Act of 1875, but, as might be anticipated, on a very modified scale. Part 1 gives to local authorities certain powers as to dealing with "nuisances" at common law, and we cannot doubt that our colonial brethren will find the word as difficult of interpretation as it is found in the old country. Part 2 gives, or professes to give, remedies against offenders, magistrates being empowered to order the removal of nuisances, the provision of privy accommodation, &c.; unwholesome food, effluvia from slaughter-houses, melting-houses, and the like, are dealt with, as also overcrowding, accumulation of rubbish, &c. Part 3 relates mainly to miscellaneous matters and saving clauses.

But this Public Health Act of 1879 is a curious specimen of law-making, in that one of the most important items of sanitary legislation is omitted. We are not aware under whose auspices such Bills are drafted, or whether the draft emanates primarily from Government House or from one of the colonial parliamentary counsel. Be this as it may, it seems to us that to omit all, or nearly all, mention of a medical officer of health, is almost like playing the tragedy of "Hamlet," and ignoring the presence of the hero. Each district, however, has its medical officer, who is subsidised by Government for a sum averaging £75 annually; but it should be remembered that in such towns as Port Elizabeth, King William's Town, Graham's Town, Worcester, and some few others, plenty of employment will be found for a medical officer as well as an inspector. The Bill will be incomplete without the introduction of a distinct section that shall indicate the immediate appointment of a chief health officer at head-quarters. This appointment should be permanent, the officer should be monopolised, and should be entirely responsible for the organisation of a sanitary system throughout the colony. Such an officer must, of course, be chosen from experienced men, and must be fairly well paid. But he must come out armed with all possible information up to date, whether it be scientific, administrative, or financial. Until such an officer is appointed, and is made really

responsible for the sanitary work of the entire colony, little will be done, for the terms of the present Bill, as now before us, indicate a great deal of useful work, but no chief to sketch it out systematically or to superintend it.

PUBLIC HEALTH ADMINISTRATION, IRELAND.

THE report of the Local Government Board for Ireland for the year 1878–79 indicates that a steady progress is being made in the public-health administration of that portion of the United Kingdom. Since the Local Government Board came into operation, of the 163 different boards of guardians acting as rural sanitary authorities, 146 had, to the date of this report, applied to the Local Government Board for orders relating to works of sewerage or water-supply, or to both, and these applications had been assented to. The number of orders issued in the past year was 117, in the first year of the Local Government Board's administration (1875-76), 79. The urban sanitary authorities do not appear to be showing less activity than the rural in promoting works of water-supply and sewerage. The report notes that no large town in Ireland has adopted as yet means for the systematic removal of filth from its midst; but the Local Government Board continues its excellent practice of placing before the Irish sanitary authorities such experience on the subject as it is able to obtain from England.

PRIMARY CANCER OF THE SKIN.

IN the current number of the *Archives de Physiologie* there is a paper by M. Chambard containing a careful study of a case of true carcinoma of the skin, which had developed on a congenital molluscous tumour on the back. The growth consisted of numerous lobules separated by a fibrous and myxomatous stroma, and containing reticulated alveoli. These alveoli varied much in size, and enclosed epithelioid cells having one or more nuclei. In some parts there was but one cell to an alveolus, other alveoli having few, and some very many cells. There was no transition to be traced between the epidermis and the cancer elements. Histologically the new growth fell under the definition of carcinoma. It could not be called a sarcoma (even of the alveolar type of Billroth), because it was destitute of vessels provided with walls of embryonic tissue, or even deprived of walls, as the sarcomata present. Nor could it be styled a large-celled lymphadenoma. Discussing the histogeny of this "reticulated carcinoma," the author states the point at issue as to whether it be of epithelial or connective-tissue origin. In other words, is it a carcinomatous epithelioma or a true primary carcinoma of the skin? Dr. Chambard here ventures to contend against the prevalent and too exclusive idea that all carcinomata must have an epithelial origin, pointing out that the epithelioid cells in a cancer are *not* epithelium in the strict sense. And in the present case there was no starting point for an epithelial growth. The sudoriparous glands were absent, and the sebaceous glands were healthy; whilst his preparations showed a sharp line of demarcation between the characteristic cells of the Malpighian layer of the epidermis and the cells within the alveoli. The case was an exception, then, to the rule laid down by Thiersch and Billroth that cutaneous cancer grows from the division of epithelial cells; it also could not fall in with the view of Köster, and Cornil and Ranvier, that it arises by transformation of lymphatic cells; whilst the theory of mixed origin from both these sources, advanced by Rindfleisch, was equally unable to account for it. At the same time, he admits that his examination failed to prove its connective-tissue origin, otherwise than by exclusion; for he could find no positive proof of the transformation of connective-tissue cells into epithelioid. He draws attention to the occurrence of the single-celled alveoli at the periphery of the tumour, as a warning to the surgeon to be careful to remove the parts widely, lest, if any of these minute outbuds be left behind, they might give rise to a further extension of the growth. His thesis ends with the three following conclusions:—1. That the tumour in question was composed essentially of spaces divided by a reticulum into alveoli containing epithelioid cells—that it was, in fact, a reticulated carcinoma. 2. That it appeared to arise independently of the epidermic layers, and certainly of the cutaneous glands; but that it was an example of primary connective-tissue cancer, as first described by Virchow, and since met with by Cornil and Ranvier. 3. That at the margin of the typical growth was a zone of tissue, clinically dangerous, characterised by the presence of isolated cancer-cells disseminated in the connective-tissue spaces.

THE CHOLERA IN INDIA.

WE are glad to note that cholera is at last disappearing from among the troops in the Punjab and Afghanistan. By the last mail our correspondent reports it as having almost died out in the Candahar force. At Chumun, D 2 R.A. and the 2nd Belooches have had a few cases, but of a milder type. The Kurum Field Force between the Piewar Kotal and Kohat have at times a few dropping cases. The squadron of the 9th Lancers and the battery of Artillery with General Massy had sixteen admissions, with eight deaths, up to the week ending 23rd August. The native regiments, however, who have suffered more or less the whole summer, are now free from the disease. The telegrams, too, received this week from the Khyber, report the cholera which had attacked the 9th Regiment, and which had necessitated part of the brigade returning to Jumrood, to be much less virulent in type, and it may, we hope, be looked on as the end of the epidemic. The 67th Regiment, encamped at Gundi Wandi, near the Kotal, have had several deaths from typhoid fever.

DEPUTY SURGEON-GENERAL TOWNSEND.

DR. TOWNSEND, who is reported to have been severely wounded whilst accompanying General Roberts on the 27th instant to the Shutargarden Pass, is the Principal Medical Officer of the Kurum Force, having been appointed to succeed Deputy Surgeon-General Allen, C.B., whose health gave way during the late operations in Afghanistan. Dr. Townsend is an officer of much repute in India, and was recently officiating as Sanitary Commissioner of the Punjab.

BAEDEKER'S THERAPEUTICS.

IN common with all travellers, we feel gratitude and respect for Baedeker, and give up trying to understand how he contrives to put so much sound information into his books. But he will not think the less of our good opinion if we venture to suggest for his next edition either the entire omission of his instructions as regards health or a modification of his paragraph headed "Health," at page 30 of his book on Switzerland. For wounds and bruises he recommends pedestrians to use arnica, and says it is a good remedy. It is, on the contrary, a very bad remedy; that is to say, it produces in many people with the slightest abrasion of the skin a kind of erysipelas or acute eczema, which would put them *hors de combat* for a much longer period than the wound or bruise for which he recommends it. We are equally dubious as to the wisdom of some of Baedeker's other prescriptions. Lead ointment for the skin is generally quite unnecessary, and might do harm. His formula for diarrhœa is fifteen drops of laudanum and aromatic tincture every two hours till relief is afforded. Well, this would, doubtless, stop the diarrhœa; but it

would probably stop the pedestrian too, and put his whole digestive system into disorder, possibly for days. Diarrhœa is a mere symptom, and is to be treated according to circumstances, and by no means in the mechanical way which such a formula suggests. It would be far better to leave travellers to the light of nature and to get some general instructions from their own medical men before leaving home than incur the responsibility of crude prescriptions such as those we have mentioned, and which are not worthy of books generally very good.

BATTA FOR THE AFGHAN WAR.

THE Indian Government have sanctioned six months' *batta* for the troops employed in Afghanistan during the late campaign. The share which medical officers will receive is as follows:—Surgeon-majors, ranking with lieutenant-colonels, 3652 rupees; ranking with majors, 2739 rupees; surgeons, ranking with captains, 1093 rupees.

WE regret to report the death, on the 27th ult., at the Barracks, Chichester, of Surgeon-Major Wilton Everet, Army Medical Department. Mr. Everet entered the army as an assistant-surgeon on the 16th November, 1858, and was soon after gazetted to the 57th Regiment, with which corps he served throughout the New Zealand campaign of 1861–1863 (medal and clasp). He was promoted surgeon in 1873, surgeon-major in 1878, and only returned from a tour of service in India early this year. Mr. Everet was forty-three years of age at the time of his decease, and leaves a widow and young family to mourn his loss.

SURGEON-MAJOR FRANCIS PATRICK STAPLES, Army Medical Department, has been compelled by ill-health to resign the appointment of Assistant Professor of Military Surgery at the Royal Victoria Hospital, Netley.

LOCAL MORTALITY IN LONDON.

IN so large an urban aggregation as the metropolis it is highly important, for sanitary purposes, to have trustworthy information as to local rates of mortality, and it is only natural that for this information we should turn to the reports of the medical officers of health of the various metropolitan sanitary districts. Unfortunately very few of these reports are to be relied upon for this trustworthy information. If we were to accept the local death-rates circulated and published by the various medical officers of health, we should be forced to the illogical conclusion that the rates of mortality in nearly all the several sanitary districts of London were considerably below the average dath-rate in the whole of London as determined by the Registrar-General. According to that authority the death-rate in the metropolis during 1878 was equal to 23·5 per 1000 of the estimated population in the middle of the year, and yet we find that according to the reports of the local medical officers of health the death-rates in nearly all the several sanitary districts were very considerably below this average rate. Dr. Septimus Gibbon has recently issued his report for Holborn, and calculates the death-rate for his district at 20·9 per 1000, or 2·6 below the general rate in the metropolis. Those who know the constitution of the Holborn district, the class of population that inhabits it, and the nature of a large proportion of the dwelling-houses, may well hesitate to accept as trustworthy this low death-rate. We fully acknowledge the difficulties that stand in the way of calculating local death-rates in London, in proof of which we need only point to the fact that in 1878 more than 18 per cent. of the metropolitan deaths occurred in public institutions, and that the death-register gives no clue to the previous residence of the deceased inmates. On the present occasion, however, it is merely our intention to show how untrustworthy is the death-rate calculated by Dr. Gibbon as having prevailed in Holborn during 1878. In the first place, we gravely doubt whether the population of the Holborn district in the middle of 1878 is not considerably over-estimated at 40,756. The low birth-rate, 25·9 per 1000, appears to support this suspicion. It is, however, in manipulating the deaths in public institutions that Dr. Gibbon has been enabled to report so favourably low a death-rate. Within the Holborn district are situated one of the Union workhouses and several hospitals; 336 deaths were recorded in the workhouse, and 154 in the various hospitals. Dr. Gibbon owns to only 55 of the deaths in the workhouse, and to but 7 of those in the hospitals; he, however, adds 65 as the Holborn share of the deaths in the general hospitals and lunatic asylums situated in other parts of the metropolis. It appears to us that there must inevitably be some grave error in assuming that only 55 deaths of Holborn residents occurred in the several union workhouses during 1878. In the whole of London 14·8 per cent. of the deaths in 1878 were recorded in workhouse establishments; and yet Dr. Gibbon asks us to believe that the proportion in Holborn was but 6·5 per cent. This must be fallacious; much more readily would we believe that the proportion of pauperism in Holborn exceeded the general metropolitan proportion. The average proportion would give 90 deaths instead of 55 as the Holborn share of the deaths in the London workhouse establishments. We may note that the Holborn Union includes the three sanitary districts of Holborn, Clerkenwell, and St. Luke's, which increases the difficulty of distributing the workhouse deaths. Infant mortality in Holborn district was equal to 175 per 1000 of the births registered in 1878, while the average proportion in the whole of London did not exceed 164. If the death-rate at all ages in Holborn exceeded the general metropolitan rate in the same proportion as the rate of infant mortality, the rate in 1878 would be 25·1 per 1000 instead of 20·9, as calculated by Dr. Gibbon. Without local information, which ought to be possessed by Dr. Gibbon, we dare not attempt to calculate the true death-rate in Holborn last year. We can, however, confidently assert that the true death-rate is very considerably higher than that published by Dr. Gibbon, and that there is little probability of its being below the average rate in London. It is quite time that some systematic effort were made to secure more trustworthy and more uniform mortality statistics of the several sanitary districts of London than are at present available. The assertion that the Holborn death-rate is much lower than the average rate in London is, from a sanitary point of view, mischievously deceptive, if it be, as we believe it is, untenable.

HEALTH OF LARGE ENGLISH TOWNS.

THE THIRTY-NINTH WEEK OF 1879.

THE English death-rate, judged by the Registrar-General's Weekly Return relating to more than seven millions of our urban population, continues remarkably low. In twenty of the largest English towns, containing nearly a third of the entire population of England and Wales, 5094 births and 2663 deaths were registered in the week ending last Saturday. The births were 88, and the deaths so many as 707, below the average weekly numbers in 1878. The deaths showed a decline of 88 from those returned in the previous week; they were equal to an annual rate of 18·8 per 1000, against 18·7 and 19·4 in the two preceding weeks. During the thirteen weeks ending on Saturday, 27th ult., the death-rate did not average more than 18·4 per 1000, against 23·1, 20·6, and 23·8 in the corresponding periods of the three years 1876–7–8. There is no near approach to so low a summer death-rate in our largest English towns on record. The lowest death-rates in these towns last week were 13·1 in Oldham, 15·3 in Norwich, and 16·2 both in Sheffield and Leicester. The rates in the other towns ranged upwards to 25·6 in Nottingham, 25·7 in Brighton, 25·8 in Manchester, and 25·9 in Liverpool. Zymotic fatality showed an excess in each of these four last-mentioned towns.

The deaths referred to the seven principal zymotic diseases

in the twenty towns were 537 last week, against numbers declining from 654 to 520 in the four previous weeks; 209 resulted from diarrhœa, 144 from scarlet fever, 60 from measles, and 54 from fever, principally enteric. The annual death-rate from these seven diseases averaged 3·8 per 1000 in the twenty towns, and ranged from 1·2 and 2·5 in Norwich and Bristol, to 6·4 and 6·5 in Brighton and Salford. Diarrhœa fatality showed a further slight decline last week, but was proportionally excessive in Brighton, Salford, Plymouth, Wolverhampton, and Leeds. The deaths from scarlet fever showed a general increase, and were more numerous than in any week since the middle of January last; the fatality of this disease was most excessive in Sunderland, Nottingham, and Newcastle-upon-Tyne. Diphtheria caused two deaths in Nottingham. Only two fatal cases of small-pox were recorded in the twenty towns, both of which occurred in London. The number of small-pox patients in the Metropolitan Asylum Hospitals had further declined to 56 on Saturday last, against 99, 79, and 70, at the end of the three preceding weeks. Seven new cases of small-pox were admitted to these hospitals during last week, against 3 and 6 in the two preceding weeks.

Correspondence.

"Audi alteram partem."

SMALL-POX HOSPITALS.

To the Editor of THE LANCET.

SIR,—In your last week's issue you gave a notice of the report of the medical officer of health for the parish of Kensington; in it reference is made to the report of Mr. Rutherglen as to the comparative severity of the epidemics of small-pox of 1871–72 and 1877–78 in that parish (the year '79 might now be added).

I have nothing to say against Mr. Rutherglen's statistics; they are, no doubt, quite correct, so far as regards the whole of the parish, but they are quite fallacious as regards the Brompton district of it.

I am one of those who have made what you call a "gratuitous averment" with reference to the Small-pox Hospital and its influence on the immediate neighbourhood surrounding it, but I have never stated that it affected the whole of the parish or the distant parts of it. I have simply said that since its opening that part of my district adjoining it has been the seat of a most severe and uncontrollable epidemic of small-pox, now lasting for nearly three years.

Before the hospital was opened that part of my district was free from the disease; since its opening small-pox has never been absent from it except at such times as the hospital has been unoccupied by patients. During this period that portion of my district, extending to Knightsbridge, has furnished only a few cases out of the total number—a very large one, as will appear.

In the epidemic of 1871–72, I, as medical officer of the Brompton district, removed fifty-one pauper cases. In the present epidemic, up to the end of July, I have removed 197 cases from the same district.

In the epidemic of 1871–72 the cases came from all parts of my district alike. In the present epidemic, of the 197 cases removed, all with the exception of nine were removed from the area round the hospital, a space of a little more than a quarter of a mile square.

The epidemic of 1871-72, it will thus be seen, was general; the present one localised round the hospital, so far as my district—that of Brompton—is concerned. Taking, therefore, Mr. Rutherglen's statistics as accurate, it appears that nearly half of the total number of cases for the whole parish were removed from the area I have mentioned adjacent to the hospital; in other words, an area of a little more than a quarter of a mile square surrounding the hospital has produced a number of cases nearly equal to that produced by the remaining fifteen square miles—the total area of the parish of Kensington. Mr. Rutherglen, by diluting these cases all over the parish, compares the two epidemics, and so defends the hospital—a not very strong defence, as it appears to me.

I could go on with this matter, and refer to the Fulham and Chelsea sides of the hospital, but I fear to occupy too much of your space. I think I have said enough to prove that my averments with reference to the hospital are neither "gratuitous" nor groundless.

Yours obediently,

West Brompton, Sept. 30th, 1879. FRANCIS GODRICH.

THE JERSEY ORPHANS' HOME.

To the Editor of THE LANCET.

SIR,—I enclose a few particulars concerning the recent outbreak of typhoid fever and measles at the Jersey Female Orphans' Home, which some of your readers may feel interested about.

"The sub-committee of the said Home report with much regret that many of the children have suffered from gastric fever. The first cases occurred in the middle of June, and since that time no less than thirty have been thus afflicted. It is a cause for thankfulness that the majority of the cases have not been severe; one only has died, and those who are still in the sick ward are now (July 9th), with few exceptions, convalescent."

Immediate steps were taken to ascertain the probable cause of this. Dr. Martin, M. Bull, the honorary consulting physician, and Peter Briard, Esq., visited the Home, and, in company with the medical officer and the secretary to the Home, carefully inspected every part of the premises. Their conclusion was that the well water was at fault. This was confirmed, after a careful analysis made by T. Morgan, Esq., Professor of Chemistry and Science, Master at Victoria College, Jersey.

It was resolved to procure at once a fresh supply of water, and to close the old well. After consultation with Mr. Morgan, four successive borings for water were made in as many different spots. In the first two the water procured was not found to be satisfactory. The last operations were made in the orchard, at a distance of 350 feet from the old well. The water from these is now being tested, and a good hope is entertained of a favourable result. At a special meeting of the Committee, held at Government House on Friday, Sept. 19th, 1879, the secretary informed the committee that he had thought it expedient to summon a special meeting in order to lay before them a statement of the recent trial to which the Home has been subjected, and of the means which have been used to meet the case. The committee were informed at their last quarterly meeting, held on the 9th July, that a large number of children had suffered from gastric fever, the cause of which had been traced to the well-water, which had become deteriorated. As then stated, the well had been closed up, and a fresh supply of water obtained from a bored well in a new locality. This water, after analysis, has been pronounced very satisfactory.

It is, however, a source of painful regret that five more children have succumbed to this malady. Forty-five have suffered, of whom thirty-nine have happily recovered. The greatest praise is due to the matron, who undertook the special and onerous duty of nursing them, and whose tender and assiduous care and unfailing attention were most exemplary.

In addition to this calamity, measles was introduced into the Home, which has proved fatal in several cases, chiefly among the infants recently admitted. An infant, eleven months old, deserted by his mother, was sent to the Home, by an order of the hospital committee, on the 5th of August. A few days after the nurse drew the attention of the matron to the child, who had been ailing, and was then suffering from an attack of measles. A message was immediately despatched to the medical officer (Augustin Le Rossignol, M.D. &c.) The child was at once placed in a separate ward, wholly secluded from the others; but in spite of these precautions the malady was not arrested. Some ten days afterwards the girl who had assisted the nurse in the case of the infant was attacked, and, in a short time, no less than fifty-one cases occurred, including eleven deaths.

About this time the secretary invited Dr. Metcalfe, who is a resident in the parish, to assist him in the oversight of the children, to which he cordially consented. On his first visit he was enabled to accompany the medical officer in his round, and became acquainted with the sick cases, and has afforded valuable help. The visits of the medical officer

have from the first been most regular, and he has shown the greatest interest in the many cases brought under his care.

Having been obliged to part with the nurse, and the one who occupies the post provisionally having to attend to the ordinary duties of the nursery, it was resolved to obtain the services of a skilled nurse from the General Nursing Institute of London, and thus relieve the matron from further attendance on the sick.

An application was also made to his Excellency the Lieutenant-Governor, to place room at the disposal of the Home for the reception of the convalescents. This was promptly acceded to, and the barracks at Rozel are at present tenanted by the children, a change which will, no doubt, prove very beneficial to them.

The number of inmates in the Jersey Female Orphans' Home, exclusive of staff and attendants, averages 100. The health of the inmates has hitherto been excellent, and it is curious to note that whilst in 1874 the island was suffering from small-pox of a virulent and fatal character, not a single case occurred in the Home. Although measles of a mild and favourable type was at that time very prevalent amongst them, not a fatal case was then met with.

Such are the particulars of the recent epidemics at the Home, as I have been able to give them. Should you find it worth while to insert them in your valuable columns do so by all means, for such would give much satisfaction to

Yours, &c.,

GEORGE F. C. WRIGHT.

Woodlands, Grouville, Jersey, Sept. 20th, 1879.

THE DIAGNOSIS OF HEPATIC ABSCESS.

To the Editor of THE LANCET.

SIR,—After having carefully read and compared the notes and remarks of Dr. J. Johnston, of Shanghai, in THE LANCET of Aug. 23rd, I have utterly failed in my attempt to reconcile the notes with the diagnosis and remarks, and shall feel greatly obliged by a further explanation.

It appears that a brother practitioner unfortunately caught a severe chill from injudiciously sleeping in the open air when improperly clad, and from the physical signs first enumerated—viz., dulness below right scapula, faint crepitation, dyspnœa, short cough, rusty sputa, and temperature 104°—I concluded in my own mind that the case was primarily one of acute pneumonia; however, this was not even so much as hinted at. The next few days, as fever and pain remained, and the dulness did not disappear, I supposed there was probably a certain amount of concomitant pleurisy (a not unfrequent sequela of pneumonia). The patient then had the aspirator driven into his side twice over the region of the liver without any result, and, to my mind, unreasonably, with so few data of physical signs. The third time the aspirating needle was introduced, "half an inch below and two inches to the left of the right nipple line, to the depth of four inches and a half." Surely this must have entered the pleural cavity, and this time twelve ounces of pus were withdrawn.

On the 22nd August—i.e., twelve days afterwards—the needle was inserted into the seventh intercostal space in the right axillary line, a spot where the normal liver-dulness begins, and again probably entered the pleural cavity, inasmuch as the liver is always depressed by effusions into the pleura, and a second time pus was removed to the extent of a pint.

On the 27th August the notes are chiefly these: "Cough and dyspnœa troublesome; complains of pain *above* the right nipple. Marked dulness on percussion over an area of the size of palm of hand immediately above the right nipple, and a *friction murmur* audible over that space. . . . He has suffered from cough throughout the day." At 5 P.M. chloroform was given, the aspirator needle was again inserted at the seventh interspace, and ten ounces of pus and lymph-flakes were removed, with great relief.

The patient was subsequently aspirated three times, and six ounces of pus, four ounces, and nothing, respectively were brought away.

In the remarks, which I must confess rather startled and amused me, Dr. Johnston says, "the 'insidious' nature of this early stage of hepatic suppuration is well shown." Again: "Suddenly, on the 27th instant, all the symptoms of hepatic suppuration commenced."

May I ask what these were? I cannot find any symptoms pointing to the liver exclusively or conclusively in Dr. Johnston's notes. I was prompted to write this in consequence of the case appearing to me to be almost the counterpart of one which I reported in the Hospital Mirror of THE LANCET last year, which I described as a case of pneumonia complicated with empyema, successfully treated by repeated aspirations.

I have never been fortunate enough to see a case of tropical abscess of liver, but I have looked in vain over the late Dr. Murchison's classical work on the Liver for the diagnostic symptoms which Dr. James Johnston mentions.

I shall be exceedingly obliged to hear any further proofs which the latter gentleman can give of the hepatic origin of the suppuration, otherwise I shall be contented to believe that his case was one of pneumonia with empyema, rather than one of hepatic abscess.

Yours faithfully,

BOYD B. JOLL, M.B. Lond.

St. Ives, Cornwall, August 27th, 1879.

TREATMENT OF SUBACUTE AND CHRONIC DYSENTERY BY IPECACUANHA AND BISMUTH INJECTIONS.

To the Editor of THE LANCET.

SIR,—I have resided in Sarawak, Borneo, for the last sixteen years, and during that time have held the appointment of principal senior medical officer to the Government Hospital, where malarious fevers, dysentery, and all endemic tropical diseases are admitted into the medical wards. I have found, after a very large experience, that, besides general treatment, local applications, in subacute and chronic dysentery, by bismuth injections in the rectum have succeeded wonderfully, and a great many cases of hopeless chronic cases have recovered. I order half a drachm of subnitrate of bismuth, to be rubbed down with half a drachm of powdered gum in two ounces of cold water, and injected from once to three times a day, according to the severity of the case. The enema must be retained. The severe tenesmus and tormina are relieved in a very short time. Of course ipecacuanha must be given, in doses of from one scruple to one drachm, at the interval of eight or twelve hours, according to the case, when the rectum symptoms are urgent. Bismuth is a most effectual remedy. I have kept clinical records of some hundreds of cases, and can speak most highly of its effect. I should like this treatment to be tried in tropical countries, as I believe it has never been used before. I cannot find the treatment I adopt in any medical work upon tropical diseases, or in any of our latest editions upon the Practice of Medicine.

Believe me, faithfully yours,

E. P. HOUGHTON, M.D., &c.,

Principal Senior Medical Officer to the Government Hospital, Sarawak.

VARIOLA AND VARICELLA: "A HARD CASE."

To the Editor of THE LANCET.

SIR,—Permit me to lay before you and your candid readers facts and circumstances in connexion with this unfortunate case. I am sorry Mr. Bonney should have rushed into print before fully acquainting himself with them.

Three cases of chicken-pox and the mother to nurse one of them were admitted on August 2nd. I wrote to Mr. Bonney next morning, stating the nature of their complaint, and requesting him to favour me with vaccine lymph, as my stock had run short, and I could not apply that day to the National Vaccine Establishment, it being Sunday. I was favoured with the lymph, and the following answer:—"I am much obliged for your note. So puzzled was I that I took the opinion of another medical man before sending the B——s to you. The distinctly pustular character of some of the spots, and the great danger of small-pox occurring in their crowded locality, determined me to send them. I send you all the vaccine I have." Now in the two cases it was the third day of the eruption, and in one it was the second day. We all know variolous spots never become pustular so early as that, and that they all follow the same course in a given time.

As to their detention, it is my practice to keep most patients exposed to the infection under observation for a fortnight, in order to prevent annoyance to them, and the danger to the public, were they to suffer from the disease. In all such cases I vaccinate or revaccinate them; those that are vaccinated or revaccinated are detained for a few hours in order to get their clothing, &c., disinfected, bathe, and discharge them. The baby was vaccinated only two months previous, but very carelessly, as the arm was still covered with scabs; the other child had "five indifferent marks, simply foveated." I would have discharged them at once had it not been for the mother, who was badly vaccinated, and I wanted to see the result of revaccination, which was satisfactory. I discharged them on the 9th of August, detaining them for eight days only. The very day Mr. Bonney writes to know if "the cases have turned out to be small-pox." As I was away, my deputy informed him that they were cases of chicken-pox. The fourth case was unvaccinated, but fortunately he took well the vaccination, and was discharged on the 16th of August, a fortnight after his admission. Had he suffered from small-pox he would have taken nearly five weeks to recover.

I remain, Sir, yours truly,

M. D. MAKUNA,
Medical Superintendent, Fulham Hospital.

Fulham, September 29th, 1879.

FUNGUS POISONING.

To the Editor of THE LANCET.

SIR,—Within the last few days four cases of fungus poisoning have been admitted into the Middlesex Hospital. Two cases occurred in one family, who had eaten fungi gathered in Hyde Park, and two in another family, where they had been taken from Regent's Park. In both instances they were eaten in mistake for mushrooms. The symptoms were those caused by a strong intoxicant, and in two cases accompanied by violent delirium. They all eventually recovered, but it seems advisable that the public should be cautioned against eating these fungi, as, if taken in large quantities, they might probably prove fatal.

I am, Sir, yours faithfully,

EDWARD A. FARDON,
Middlesex Hospital, Oct. 1st, 1879. Resident Medical Officer.

SURGEON-MAJOR REYNOLDS.

To the Editor of THE LANCET.

SIR,—As our brave brother, Surgeon-Major Reynolds, may soon arrive in London, do you think we could combine to receive him hospitably at a friendly dinner?

Faithfully yours,

Euston-road, Sept. 27th, 1879. P. MAGENISS, L.R.C.P.E.

Medical News.

A BUST of the President of the Queen's College, Belfast, has been placed in the consulting-room of the Samaritan Hospital for Diseases of Women, Belfast, being the gift of a former student of the College.

THE drinking of water from a foul well or tank, at Banstead, Surrey, has, it is reported, resulted in the serious illness of a whole family, and the death of one of its members. The Epsom rural sanitary authority has accordingly ordered the immediate closing of the polluted well.

THE "Dumfriesshire and Galloway Mail," in its issue of the 27th ult., reports the proceedings which took place on the occasion when a complimentary dinner, a handsome gold watch, and a purse of 100 guineas were given to Dr. J. D. Carruthers, who for upwards of twenty years attended the sick poor of the Cramond district, Edinburgh, &c. The dinner was largely attended by clergy and resident gentry, and the kindliest feeling appears to have been exhibited to the worthy doctor. These expressions of respect for, and confidence in, members of the profession engaged in the too frequently thankless work of attending on the poor cannot be too highly appreciated, and we heartily congratulate Dr. Carruthers in thus gaining the confidence and respect of his neighbours and friends.

AN inquest was held at Bromyard on Sept. 30th, on the body of Mr. Etheredge, surgeon. Deceased had been in the habit of taking chloral diluted with chlorodyne. On Friday night he took a large dose, and as he did not recover from its effects, three medical men were called in, but their efforts were unavailing. A verdict was returned of "Accidental poisoning."

SMALL-POX IN DUBLIN.—During the September quarter the deaths registered from this disease in Dublin amounted to 65, being a decrease of 60 as compared with the previous three months.

WHOOPING-COUGH IN BELFAST.—During the past quarter the deaths from this disease in Belfast amounted to 53, the affection having been prevalent in that town for many months past.

UNIVERSITY COLLEGE, LONDON.—Mr. Samuel Cromwell Jones has obtained the Entrance Exhibition of £30 per annum, Mr. Edmund Walter Emtage that of £20 per annum, and Mr. Conrad Pereira that of £10 per annum, each tenable for two years.

YORKSHIRE ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.—The fourth annual meeting will be held on Thursday, October 16th, at the Town Hall, Bradford. After the delivery of the President's address, papers will be read as follows:—By Mr. Harris Butterfield, on "Infantile Diarrhœa;" by Dr. Thomas Britton, on "A Difficulty in Water Supply." The dinner will take place at the Talbot Hotel at 6 P.M.

TYPHOID EPIDEMIC IN WARWICKSHIRE.—At a meeting of the Alcester Sanitary Authority on Sept. 23rd, a report was presented showing that 18 cases of typhoid fever and three deaths had occurred since the month of July. The epidemic was attributed to the pollution of the well water, and a letter from the Local Government Board urged that the wells should be immediately closed, and the Waterworks Company's water be used instead of the well water. Steps were ordered by the local authority to be taken for closing the wells.

NORTHAMPTON GENERAL INFIRMARY.—At the meeting of Governors for appointing a physician, *vice* Faircloth, deceased, there was only one candidate, who, being unable to attend, had written requesting that the meeting might be adjourned for a week or a fortnight; but after some discussion, in the course of which it was suggested that in future there should be only one physician on the staff, it was resolved to reappoint the sub-committee, "and that they be instructed to make any further suggestions they might think proper with regard to the appointment or non-appointment of a second physician," and report.

BEQUESTS TO MEDICAL CHARITIES.—The General Hospital, Birmingham, has received £2000 towards the new works, from Mr. G. P. Wragge, out of the "Ingleby Fund." Mrs. Elizabeth Lansborough Gill, of Lee, Kent, bequeathed £200 each to the Royal Sea-Bathing Infirmary at Margate, and the East London Hospital for Children at Margate, and the "residue" of her estate, after the death of her servant, to several charities, among them being the Hospital for Diseases of Women and the Cancer Hospital. Mr. Alexander Turnbull Russell, of Easterton, Milngaire, bequeathed £1000 to the Glasgow Royal Infirmary, and £500 to the Scottish National Institution for Imbecile Children. The Canterbury Dispensary has received £100 under the will of Miss Neame.

"THE TIMES" announces the deaths of two medical men of note—Professor Mohr, of Bonn University, and Dr. Seng, of Vienna, the former aged seventy-two and the latter eighty. Mohr, likehis father, was originally an apothecary at Coblenz. In 1864 he was attached to Bonn University, and some of his works on chemistry, geology, and physics have been translated into foreign languages. His activity was inexhaustible, and on his death-bed he dictated scientific treatises. Ignaz Seng, the son of a German, who on the outbreak of the first revolution left Paris for Vienna and entered the army, was a pupil of the surgeon Mozart, nephew of the composer, and he had many tales to tell of Napoleon, Beethoven, and other famous men with whom he had come in contact. He attended professionally at numerous duels, including those in which Count Jaroschinski and Prince Solm figured. His elder brother, Franz, was assistant to Malfatti.

Medical Appointments.

ALLSWORTH, W., M.B., has been appointed House-Surgeon to the Royal Cornwall Infirmary, Truro, vice Marsh, resigned.

ARMSTRONG, L., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Dawlish and Wolborough Urban, and the Newton-Abbot Rural, Sanitary Districts, at £400 per annum for two years.

BARCLAY, J., M.D., C.M., has been appointed Medical Officer and Public Vaccinator for the Parish of Banff, vice Clayton, deceased.

BLACK, A., M.B., C.M., has been appointed Medical Officer to the Forester's Friendly Society, Edinburgh, vice Mackay, resigned.

BLEAKLEY, A. S., M.B., C.M., has been appointed Certifying Factory Surgeon for the District of Blessington, co. Wicklow.

BOURNE, T. S., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Kenilworth.

BROWN, T. L., M.R.C.S.E., L.S.A.L., has been appointed Resident Medical Officer to Queen Charlotte's Lying-in Hospital, vice Gardener, whose appointment has expired.

BURMAN, C. C., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the East District of the Belford Union, vice Broadbent, resigned.

CLARKE, J., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Certifying Factory Surgeon for the District of Bailieborough, co. Cavan.

COATES, E., L.F.P.S.G., has been appointed Medical Officer, Public Vaccinator, &c., for the Portumna No. 1 Dispensary District of the Portumna Union, co. Galway, at £100 per annum and fees, and £12 per annum as Medical Officer of Health, vice S. Coates, M.D., resigned.

COLLENETTE, F. de Beauchamp, L.R.C.P.L., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer of Health for the Wolstanton and Burslem Rural Sanitary District, at £75 per annum, vice Edwards, Goodall, and Taylor, whose appointments have expired.

COLLIER, Dr. J., has been appointed Medical Officer, Public Vaccinator, &c., for the Collon Dispensary District of the Ardee Union, co. Louth, at £100 per annum and fees, and £15 per annum as Medical Officer of Health, vice Christal, resigned.

CORBYN, F. H., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Hurst-green District of the Ticehurst Union, vice Vipan, resigned.

COULDREY, J., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Scunthorpe, Lincolnshire.

COUTTS, G., M.B., C.M., has been appointed House-Surgeon to the Teignmouth, Dawlish, and Newton Infirmary, vice Fenwick, resigned.

D'ALTON, P. R., L.R.C.S.I., L.K.Q.C.P.I., has been appointed Medical Officer, Public Vaccinator, &c., for the Innishboffin Division of the Clifden Dispensary District, Clifden Union, co. Galway, at £90 per annum and fees, and £10 per annum as Medical Officer of Health, vice FOX.

DENHAM, T. R., M.D., C.M., has been appointed Medical Officer of Health for the Wigton Urban Sanitary District, Cumberland, at £40 for one year, vice Pritchard, whose appointment has expired.

GALLIMORE, T. A., L.R.C.P.Ed., L.R.C.S.Ed., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Denton, Manchester, vice Beecroft, resigned.

GEOGHEGAN, E. G., M.D., L.R.C.S.Ed., has been appointed an Assistant Medical Officer to the Gloucestershire Lunatic Asylum, near Gloucester, vice Jones, resigned.

GODDARD, J. B., L.S.A.L., has been appointed Medical Officer of Health for the Lymington Rural Sanitary District, at £50 per annum, for three years, vice Hall and Goddard, whose appointments have expired.

KERIGAN, L., L.R.C.S.I., L.A.H.D., has been appointed Medical Officer, Public Vaccinator, &c., for the Castletown-Geoghegan Dispensary District of the Mullingar Union, co. Westmeath, at £120 per annum and fees, and £15 per annum as Medical Officer of Health, vice Strahan, resigned.

LUMSDEN, G., M.B., C.M., has been appointed Medical Officer and Public Vaccinator for the Northern and Central Districts and the Workhouse of the Pateley Bridge Union, Yorkshire, vice Warburton, resigned.

MCCUTCHEON, S., M.D., C.M., has been appointed Medical Officer for the No. 1 District of the Middlesborough Union, vice Mackenzie, resigned.

MACKENZIE, Dr. J., has been appointed a Physician to the Hospital for Diseases of the Throat and Chest, Golden-square.

MATHESON, F., M.B., C.M., has been appointed Surgeon and Apothecary to the Loyal United Brethren Society, Broad-street, Bloomsbury.

O'CONNOR, L., L.K.Q.C.P.I. & L.M., L.R.C.S.I., has been appointed Certifying Factory Surgeon for the District of Glenarm, co. Antrim.

PERKINS, J., M.R.C.S.E., L.S.A.L., has been appointed Resident Medical Officer to the Jersey General Dispensary, vice Le Quesne, resigned.

SHEPPARD, H. H., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the No. 11 District of the Wisbeach Union, vice Hemming, resigned.

SIDEBOTHAM, G. W., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Hyde, Cheshire, vice Beecroft, resigned.

SNOWDEN, A., L.R.C.P.Ed., has been appointed a Visiting Assistant to the Newcastle-upon-Tyne Dispensary, vice Gowans, resigned.

STEVENS, C. P., F.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Biggleswade.

WATSON, J. B., L.F.P.S.G., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the Bourn District and the Workhouse of the Bourn Union, vice Ashworth, resigned.

WEAR, A. T., M.R.C.S. & L.R.C.P.L., has been appointed Honorary Surgeon to the Newcastle-on-Tyne Dispensary, vice Carr, deceased.

WILSON, Mr. A. S., has been appointed Professor of Botany at Anderson's College, Glasgow, vice Paterson, resigned.

WOOD, F. H., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer of Health for the Hemsworth Rural Sanitary District, at £40 per annum, for three years, vice W. D. Wood, L.R.C.P.Ed., resigned.

Births, Marriages, and Deaths.

BIRTHS.

CRAWFORD.—On the 20th ult., at Uddington, Lanarkshire, the wife of William Crawford, M.D., of a daughter.

DAVIS.—On the 21st ult., at Newbridge, the wife of John Norman Davis, M.D., Surgeon-Major, Army Medical Department, of a daughter.

DEWAR.—On the 21st ult., at South Queensferry, Linlithgowshire, the wife of James Dewar, M.D., of a son.

DUNCAN.—On the 23rd ult., at Royal-crescent, Crosshill, Glasgow, the wife of Ebenezer Duncan, M.D., of a son.

NELIGAN.—On the 22nd ult., at Tralee, co. Kerry, the wife of Joseph William Neligan, M.B., of a son.

NICHOLS.—On the 19th ult., at the South Dublin Union Workhouse, the wife of John Moore Nichols, L.R.C.S.I., of a daughter.

STARTIN.—On the 30th ult., the wife of James Startin, M.R.C.S.E., of 17, Sackville-street, Piccadilly, of a son.

MARRIAGES.

FYFFE—BREMNER.—On the 25th ult., at St. Olaf's, Kirkwall, John Fyffe, M.B., to Isabella Margaret Balkie, daughter of the late Captain Thomas Bremner.

ROSS—HARRIS.—On the 9th ult., at Christ Church, Worthing, by the Rev. R. Poynder, R. Alexander Ross, M.R.C.S.E., L.S.A.L., eldest son of Richard Bedford Ross, of Compton House, Brighton, to Edith Ellen, elder daughter of Dr. Pierre Harris, of Edmonstone House, Worthing.

DEATHS.

BRIDGEFORD.—Found drowned, on the 18th ult. (supposed accidentally), James Skidmore Saunders Bridgeford, Assistant House-Surgeon to the Rotherham Hospital and Dispensary, aged 26.

CAMERON.—On the 12th ult., at Port Ellen, Islay, John Cameron, M.D., aged 42.

CHAVASSE.—On the 20th ult., at Hagley-road, Birmingham, Pye Henry Chavasse, F.R.C.S.E., aged 69.

COPLAND.—On the 18th ult., at Ealing, James Charlesworth Copland, M.R.C.S.E., aged 48.

CREAM.—On the 18th August, at Wynaud, Madras, George Cream, M.R.C.S.E., aged 69.

DAVIES.—On the 10th ult., at Kilmore, co. Wexford, George Davies, M.D.

EVERET.—On the 27th ult., at the Barracks, Chichester, after a few hours' illness, Surgeon-Major Wilton Everet, Army Medical Department, aged 43.

HARRIS.—On the 22nd ult., at his residence, Lake-street, Leighton, George S. D. Harris, L.R.C.P., M.R.C.S.E.

LANG.—On the 28th ult., at Berners-street, Henry Lang, M.B., aged 59.

MACCARTHY.—On the 9th ult., at Cottage grove, Southsea, Thomas MacCarthy, Staff-Surgeon R.N., retired.

MALCOLM.—On the 15th ult., at South-street, St. Andrews, Fifeshire, Thomas Malcolm, L.R.C.S.Ed.

RITTERBANDT.—On the 26th ult., at Percy Villas, Campden-hill, Kensington, Louis Antoine Ritterbandt, M.D., aged 71.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

Notes, Short Comments, and Answers to Correspondents.

SANITARY WORKS AND THE WEATHER.

THE extraordinary prevalence of rain has produced, among many other injurious results, a consequence which has not been generally foreseen. It has interfered very considerably with the attempts made in different parts of the country to improve the sanitary condition of towns by the construction of new sewers. For instance, we mentioned some time ago that Harwich had obtained £10,000 for this purpose, and the task, including a storage sewer 900 feet long, and holding 250,000 gallons, should have begun in May, and been completed in four months. At first the weather rendered the work nearly impossible, while at present the harvest has attracted the labourers away. The contract has consequently been broken, and the Town Council have to decide whether under these exceptional circumstances an extension of time can be allowed. In the meanwhile Harwich must content itself with the old and inefficient means of sewage disposal.

Dr. Auburn.—We adhere to our opinion on the subject of medical advertising.

PUNCTURING IN ANASARCA.

To the Editor of THE LANCET.

SIR,—In reply to a note signed "Anasarca" in your last issue, asking for information as to the best way of closing the puncture-holes made by using Dr. Southey's fine cannulas, I would say that I have noticed that the drain of the fluid from the punctures tends to cease after a few hours spontaneously; but should it continue, the application of a small pad of lint fastened by strapping will bring about the required closure.

Yours &c.,

Lynn, Sept. 30th, 1879. A. G. BLOMFIELD, M.B.

A LIVING FILARIA IN THE EYE OF A HORSE.

THE subject of this phenomenon was exhibited by Dr. Turnbull to the Philadelphia County Medical Society. When illuminated, there could be seen through the partially opaque cornea of the horse's left eye a worm several inches in length, and white in colour. Without the aid of artificial means, the filaria could be distinctly observed floating and wriggling about in the anterior chamber. The eye seemed slightly irritated, as evidenced by the horse occasionally endeavouring to rub it; also the stimulus of reflected light caused some lachrymation. The iris was of good colour, the action of the pupil perfect, lens clear, and the remainder of the eye quite healthy. The report is given in the *Philadelphia Medical Times*.

U. S. A.—The United States have no general law on medical qualification. Each State has its own regulations.

Liverpudlian.—We are not aware of the existence of such institutions.

THE HYPODERMIC INJECTION OF MORPHIA IN CHOLERA.

To the Editor of THE LANCET.

SIR,—Mr. Hardman's letter on the Hypodermic Injection of Morphia is interesting, and strongly confirmatory of the truths I learned and have enunciated as the result of my experience after many years' repeated visitations of cholera in this country. I have never seen it in the East, but attended hundreds of cases in the year 1849 at Hemel-Hempstead, Herts, and subsequently at Newcastle in 1853, and again in London in 1854. Previously to my personal experience at Hemel-Hempstead, I had watched the progress of the disease and the futility of the treatment in the various hospitals in London, and came to the conclusion that the chief indication to be pursued with any hope of success was to stop the vomiting, as any ordinary draught was immediately violently expelled by the stomach. As there was seldom the power to digest, so to say, the solid opium, I was led to try the fluid preparation in a concentrated form, giving the tincture in syrup, the whole volume being only forty or sixty minims; and, though this may be vomited over and over again, I persisted until a dose was retained, the repeated attempts, doubtless, leaving each time some effect, and eventually time was gained for other treatment, and progressing towards cure. The success was surprising, and if I mentioned the extent of it your readers will be only incredulous, and fancy, as has been the case before, that my cases were not of "cholera vera Asiatica." Still they were, and hundreds of them, and they were all cured, although under other treatment many died in from five to twelve hours, and I have full proof of what I assert. I now see clearly that Mr. Hardman's treatment answers exactly the same end as mine, but is much more manageable and convenient; but in my earlier days we had not the resource of the morphia injection, and I have been laid aside by ill-health for many years.

I have reason to speak in praise of the hypodermic injection of morphia, as I have suffered martyrdom from colic and obstruction three times, the first for many days, but was relieved at last by very large doses of laudanum. The second time I was with a friend, an eminent physician, and the second day we determined on the injection of a quarter of a grain of morphia. I was relieved instantly, the feeling being as though an entanglement was unravelled in the intestines. The third attack was when I was alone in an hotel on the Riviera, and I managed the affair for myself with the same happy result. The last case of colic that I treated in my stable was cured by opium, and I mention the dose as it may be valuable to our brethren. The case was one of dreadful suffering to the poor animal, and a most sensible vet. was watching and consulting with me. He first by his own desire gave a warm cordial of decoction of aloes &c., and then, by mine, continued hour after hour to throw up buckets of warm water, as I thought it must be beneficial. No good following, I asked him to give a full opiate and antispasmodic. We determined on tincture of opium and spirit of compound sulphuric ether, of each one ounce, guarded in gruel, as a drench. This caused relief; but the pains recurring in half an hour, we repeated the dose, and shortly after a warm-water injection was followed by a copious injection of fæces, and the poor animal was cured.

I am sure many of your readers will be interested in the equine dose. I feel sure that the opium saved my horse, and also that I owe my own life to that drug. I am, Sir, yours respectfully,

Oxford, Sept. 27th, 1879. ARTHUR SARJEANT.

P.S.—Mr. Hardman most accurately describes the symptoms of cholera. Where did he treat the disease?

Mr. Parker.—We are not aware that any doubt exists as to the value of physiology in the treatment of disease. No practical man can question the fact.

BARNSLEY WORKHOUSE.

To the Editor of THE LANCET.

SIR,—The following illustrates the value of the services put upon the two professions by country guardians:—

The barber receives about £32 per annum for shaving and hair-cutting, and attends twice a week.

The doctor receives £70 per annum, and attends every day, and throws in all medicines. The other day he asked for an increase of salary on account of the large increase of work (amounting to 150 sick daily), and was told by the guardians that his application was "inopportune."

Yours &c.,

September, 1879. W.

STUDENT-LIFE IN RUSSIA.

THE following "rules and regulations" lately issued to the students of the University of St. Petersburg will be read with interest, as conveying an amusing though withal painful idea of the condition of student-life in the Russian capital. Verily it is good not to be the child of so austere an *alma mater*:—

"1. The students, like all other citizens, are forbidden to belong to any secret society or association, even should the society or association have no pernicious aim.

"2. The students not forming a corporation are therefore strictly prohibited from any collective action, such as the drawing up of addresses and petitions and the sending of deputations.

"3. Any gathering with the intention of making a demonstration or holding a consultation is interdicted.

"4. No amateur concerts, dramatical performances, or readings are allowed.

"5. Where not within the precincts of the University itself, the students come under the authority of the police, but are nevertheless subject to the special supervision of the inspectors of the University.

"6. Every student must be provided with a written authorisation to reside in St. Petersburg for six months, and a student's card authorising him to attend the lectures, which latter he must always carry about him, and be able to produce whenever he is called upon to do so either by an inspector of the University or by a police officer. Every student is, moreover, to present himself each month with his student's card at the residence of the Vice-Rector on the day and at the hour which will be determined. Should he fail in this his student's card becomes invalid.

"7. The inspectors of the University are required to visit the students at their homes, especially those who do not live with their parents, and the student should never, under any pretext, offer any opposition to the reception of an inspector.

"8. The students are not allowed to have in their possession any book or engraving prohibited by the Censor in which the Government, any political personage, or public morality is outraged.

"9. The students are required, both within the precincts of the University and in the city, to be continually dressed in decent civil clothes, without any particular sign or distinctive mark by which they can be distinguished from the rest of the civil population. The wearing of the costume of any nationality is also prohibited.

"10. All signs of approbation or disapprobation in the lecture halls are forbidden.

"11. Should any student fail to attend the lecture during three days without having previously given warning of his intention to do so, it devolves upon the inspector to inquire the reason of this absence.

"12. The students are not permitted to lithograph the lectures.

"13. When a student is on leave of absence from the University, he is to present himself with his student's card before the police authorities of the town or village where he may be temporarily residing.

"14. Should a student absent himself from the University without permission he will be expelled.

"15. The students are forbidden to receive any private instruction from anyone without having previously obtained the authorisation of the Vice-Rector of the University. Any infringement of this regulation will be punished by the loss, during the whole of his course of studies at the University, of the student's right to receive private tuition. Should a student infringe this regulation a second time he will be expelled the University.

"16. The infringement of any of these rules and regulations will be punished—first, by a reprimand from the Vice-Rector, with or without inscription on the list of refractory students; second, by arrest not to extend over more than seven days; third, by a public reprimand; fourth, by rustication for a year, with the right to study in another University; fifth, expulsion from the University for ever. The student expelled for ever cannot enter another University till after the expiration of three years, and then only with the guarantee of the authorities of the University the student may desire to enter."

G. P. might call on Mr. Trimmer at the College of Surgeons between one and three P.M., and give full particulars. No doubt he will be able to explain the matter.

Mr. Gibson.—Apply to Dr. Wilson, Alton, Hants.

WASP STINGS.

To the Editor of THE LANCET.

SIR,—I was called to attend a somewhat rare case of the effect of a wasp sting, which might be of interest to some of your readers.

E. R——, aged sixty-nine, was stung on the right thumb by a wasp. I saw her within ten minutes, and found her neck and face greatly swollen and black; her tongue filled the whole of her mouth, and her gums were so swollen as to protrude beyond her lips; she had lost all power of speech, was nearly insensible, and breathed with excessive difficulty. I drew her tongue out with a pair of artery forceps, and made two free incisions on either side of the central raphé, and one on each side of the gums. The bleeding was profuse; the swelling going down within a quarter of an hour, the patient could speak, and expressed herself better. I saw her four hours after, when she was perfectly well, except her mouth feeling sore. Yours truly,

S. T. PHILLIPS, L.R.C.P. & S. Ed.

Tenbury, Worcestershire, Sept. 6th, 1879.

THE DUBLIN ORTHOPÆDIC HOSPITAL.

THIS hospital is, we have no doubt, a most useful institution. But is there no member on its staff who can control the puffing tendency which seems to affect some of its friends, and finds expression in such articles as one in the *Dublin Evening Mail* of Sept. 6th, and in a letter in the *Irish Times* of Sept. 17th. Such articles must be painful to the persons in whose laudation they seem written, and cannot ultimately be for the benefit of the hospital.

Mr. J. H. Bridges.—On reflection it must be apparent that we can neither recommend nor "indicate" a practitioner to a patient. This is our rule, and we can make no exception.

THE INDIAN MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—Complaints such as appeared in your issue of the 2nd ult. are surely ill-timed when there are real grievances to be rectified. No one out of Bengal unaffected by the result could for a moment doubt Dr. Payne's perfect right to refuse and then accept promotion as it suited him. As to the separation into civil and military in Bengal and elsewhere, leaving civil surgeons without professional superiors to direct local governments in distributing the good appointments, it is all moonshine. Men with interest will get them as heretofore. As well might we in Southern India complain of juniors having been put into the best appointments in the Presidency over the heads of at least a score among their numerous seniors, who are to the full as well qualified to hold the posts, and all because the Governor wishes to save provincial at the expense of imperial funds. No, these are local grievances trying enough to the few whom they concern, but hardly calling for imperial legislation.

Our real grievance is the Pension Rules, which were framed half a century ago, and are unsuited to these days of high prices. However, it appears from the *Overland Mail* that the Military Pension Rules are now under revision, and it is to be hoped that those of the medical service will speedily follow. Higher pensions given for shorter service, and the extra pension to surgeon-generals and deputy surgeon-generals, given at a yearly rate for each year served, instead of only after five years' service, as now, would induce earlier retirement, and reduce the number of senior higher paid officers, and thereby be a saving to the State.

Chaplains receive £365 a year after seventeen years' service, and adopting this as a basis, the following scale is drawn up:—

After 17 years' service in India	..	..	..	£365
,, 20	,,	,,	..	450
,, 24	,,	,,	..	550
,, 27	,,	,,	..	650
,, 30	,,	,,	..	730

Extra pension to surgeon-generals for each year of active service in that grade £75 a year, and to deputy surgeon-generals £50 a year. All service to count towards pension. Your obedient servant,

Southern India, Sept. 3rd, 1879. SURGEON-MAJOR.

G. P. should apply to the Secretary of the Charity Organisation Society for a copy of their Model Rules for Provident Dispensaries. Our correspondent will find some useful information on inhalation in an American book on the subject by J. Solis Cohen, M.D., and in Dr. Thorowgood's book on Asthma.

Mr. Cranny.—The subject is under consideration.

GALVANIC ACUPUNCTURE.

To the Editor of THE LANCET.

SIR,—Will you kindly permit me to refer Dr. Morgan to Dr. Althaus's treatise on the Electrolytic Treatment of Surgical Diseases, and at the same time to inform him that I and many others have adopted this treatment for the last ten years. Dr. Morgan winds up the first part of his paper in THE LANCET of Sept. 27th thus: "Indeed the electric current seems to exercise certain well-marked hæmostatic properties." Is it not rather late in the day to find this out? Has Dr. Morgan never seen an aneurism or even a nævus treated by galvanic acupuncture? I may conclude by saying that, although holding out great hopes of success, it is even now a scientific curiosity for the physician rather than a practical remedy for the general practitioner.

I remain, Sir, yours truly,

Manchester, Sept. 30th, 1879. H. STANLEY GALE.

Mr. W. S. Hamilton, (Knock, Belfast.)—The case referred to was reported in the *Australian Medical Journal* (No. 187) in 1877, and was noticed in THE LANCET of May 26th of that year.

W. H.—All we can say about the case is that it is *not* an uncommon one. Consult a general practitioner.

PEMMICAN.

To the Editor of THE LANCET.

SIR,—At the commencement of this year several applications were made to me by medical gentlemen for "pemmican" in consequence of something that appeared in your journal respecting it. I tried all over London to procure some, but could not succeed; but have just received a consignment of it from Manitoba. Yours truly,

G. VAN ABBOTT.

Princes-street, Cavendish-square, Sept. 26th, 1879.

Beaz.—The case is a fine illustration of the system of cheap medicine, and should serve to open the eyes of the patient and her friends. We cannot answer the first question positively. It has never been raised in a court of law, and we should not advise a lawsuit. Medical men, parish medical officers, and otherwise, are allowed to do too much with unqualified assistants.

Mr. J. M. McCulloch.—We cannot name a practitioner. Consult an experienced surgeon.

A CAUTION.

To the Editor of THE LANCET.

SIR,—I think it right to warn your readers against a middle-aged Frenchman, who is going the round of the doctors' houses, begging, ostensibly for his fare to Boulogne. Thanks to the plates on the doors, he is able to ask the unsuspecting servant at once if her master is at home, calling him by his name, and the servant, supposing him to be a patient, ushers him at once into the consulting-room, should the victim not be otherwise engaged. He then enters into a long story which chains your attention, for it is about the wars he has been through, as you naturally suppose that at the end he is going to ask you to look at some wound or scar which is causing him pain; but, instead of this, he winds up by saying he wishes to return to France, and asks you to help him to do so. When I refused—for he is a well-fed and well-dressed looking man of about fifty,—and asked him why he chose me to apply to for help, he shrugged his shoulders, and said his "papa was a doctor," and he thought on that account all men of the same profession would hold out a helping hand to him in his distress. It is as well, perhaps, to mention that he sends in an elaborately glazed card with Captain Montain and various flourishes on it, which he asked me to return when I refused to help him. He gave as a reference the name of a medical man, which is not published in the Medical Directory, but said he had "watched Holmes Coote using the knife during the Crimea."

I am, Sir, faithfully yours,

Kensington-park-gardens, Sept. 26th, 1879. GEORGE HASTINGS.

MEDICAL USES OF THE CARRIER PIGEON.

MR. HARVEY J. PHILPOT, in a letter to the *Daily Telegraph*, writes as follows:—

"I have made valuable use of the carrier or homing pigeon as an auxiliary to my practice. So easily are these winged 'unqualified assistants' reared and trained that I am surprised they have not been brought into general use by the profession I belong to. My *modus operandi* is simply this. I take out half a dozen birds, massed together in a small basket, with me on my rounds, and when I have seen my patient, no matter at what distance from home, I write my prescription on a small piece of tissue paper, and having wound it round the shank of the bird's leg I gently throw the carrier up into the air. In a few minutes it reaches home, and, having been shut up fasting since the previous evening, without much delay it enters the trap-cage connected with its loft, where it is at once caught by my gardener or dispenser, who knows pretty well the time for its arrival, and relieves it of its despatches. The medicine is immediately prepared and sent off by the messenger, who is thus saved several hours of waiting, and I am enabled to complete my morning round of visits. Should any patient be very ill, and I am desirous of having an early report of him or her next morning, I leave a bird to bring me the tidings. A short time since I took out with me six pairs of birds. I sent a pair of them off from each village I had occasion to visit, every other one bearing a prescription. Upon my return I found all the prescriptions arranged on my desk by my dispenser, who had already made up the medicines."

Mr. Williams asks for the United States Pharmacopœial recipe for aromatic spirits of ammonia. The constituents are the same as in our own Pharmacopœia. The formula we do not remember.

Mr. W. H. Anderson.—The Secretaries of the Manchester Medico-Ethical Association are Dr. W. H. Barlow and Mr. S. R. Henson.

SPONTANEOUS EVOLUTION.

To the Editor of THE LANCET.

SIR,—If your correspondent, Mr. Charles Johnstone, can refer to THE LANCET so far back as 1848, he will find notes of a case of "Spontaneous Evolution of the Fœtus in Utero," similar to the one recorded by him in your last number.

If you can find room for this reference in your next issue, it will add to the interest and to the value of both cases.

Yours faithfully,

Sept. 30th, 1879. SENEX.

TOUTING.

To the Editor of THE LANCET.

SIR,—I beg to call your attention to a system of touting at *****. For a long time past this practice has been going on in all the new roads and streets of this district. The plan adopted is this: One or two females go about from house to house, and every new-comer is sure to receive an early visit from these female touters, who after making some little excuse for calling, such as "you will find this place very pleasant," conclude by asking "Who is your doctor?" "Well, we have no one at present." "Oh, then, you should have Doctor So-and-so should you ever require one; he is such a nice young man—in fact, there is no one like him." Yours &c.,

September, 1879. M.R.C.S.

Dr. J. F. Oliver.—When the report is published it will be obtainable at Hansard's. Professor Rutherford would, doubtless, supply the information desired if asked.

Mr. E. B. Reckitt.—The relieving officer has no authority to order extras, though he has the absurd power of disallowing extras recommended by the medical officer.

LONGEVITY.

To the Editor of THE LANCET.

SIR,—While the question of longevity is under discussion, it may be interesting to note that Plautus, who lived B.C. 223—184, speaks of a woman of eighty-four as being very old and decrepit. I give the passage from the "Mercator," Act 4, Sc. 1, v. 5, *et seq.*:—

Dorippa. Quin is ocyus?
Syra. Nequeo, mecastor; tantum hoc oneri 'st quod fero.
Dorippa. Quid oneris?
Syra. Annos octoginta et quatuor.

Again, there is another passage in the "Miles Gloriosus," Act 3, Sc. 1, 32, in which a man of fifty-four is annoyed at being considered an old man.

Periplectomenes. Quid ais tu? Mane tibi ego videor oppido acherunticus;
Tam capularis? Tamne tibi diu videor vitam vivere?
Nam equidem haud sum annos natus præter quinquaginta et quatuor.
Clare oculis video, pernix sum manibus, sum pedes mobilis.

From these quotations it may fairly be assumed, I think, that the condition of human life was much the same 2000 years ago as now.

I remain, Sir, your obedient servant,
Fulham, S.W., Sept. 22rd, 1879. T. J. W.

ERRATUM.—In Mr. Sampson Gamgee's paper on "Wound Treatment" (THE LANCET, Sept. 27th, p. 457, col. 2, line 48), for "comminuted," read *ununited*.

IT is requested that provincial papers sent for the information of the Editor may be marked so as to direct attention to the medical or sanitary matters it is desired to notice.

LETTERS not answered in the current week will be dealt with in the next issue of THE LANCET.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. Pick, London; Dr. Lattey, Kensington; Dr. Wier, Charmouth; Mr. Stevens, North Shields; Dr. Barnes, West Bromwich; Mr. Elliott, London; Dr. Day, Cheltenham; Mr. Van Abbott, London; Mr. Snell, Sheffield; Dr. Duffin, London; Dr. Allan, Glasgow; Mr. Hapson, London; Mr. Ainsworth, London; Dr. Dowse, London; Mr. Hastings; Dr. Dupré, London; Mr. M'Culloch, Hampstead; Mr. Eastwood, Huddersfield; Mr. Woodcock, St. Andrews; Dr. Cory; Dr. Field, Bath; Dr. Jober, St. Thomas, West Indies; Mr. Jackson, Sheffield; Dr. Porter, Madras; Dr. Auben, New York; Mr. Mageniss, London; Mr. Wright, Jersey; Mr. Sarjeant, Oxford; Mr. Singleton, Bradford; Mr. Parsons, Guildford; Messrs. Mackey and Co., Warrington; Mr. Bridgeford, London; Mr. Hancock, Worcester; Mr. Balfour; Mr. Churton, Leeds; Mr. Reed, Hackney; Mr. Makuna, Fulham; Mr. A. C. Eskell, London; Mr. Hamilton, Belfast; Mr. Young, London; Mr. Grant, Birmingham; Mr. Parker, Bath; Dr. Buchanan, Glasgow; Mr. Cranny, Dublin; Mr. Reckett, Boston; Mr. Cornish, Penzance; Mr. Walters, Reading; Mr. Fardon, London; Mr. Batley, Chichester; Dr. Oliver, Staindrop; Mr. Llanwarne, Hereford; Mr. Walter, Dover; Mr. Gale, Manchester; Mr. G. Brown, London; Mr. Girardot, London; Dr. Blomfield, Lynn; Dr. Barry, Settle; Mr. Horne, Barnsley; Mr. Yews, Wellingborough; Mr. Bridges, Holloway; Mr. Scarf, Birmingham; Mrs. Rigby, Preston; Mrs. Baines, London; Mr. Barnes, London; Mr. Wear, Newcastle; Dr. Edmunds, Hampstead; O. M.; H. S. N.; M.D., Canterbury, New Zealand; W. W. B.; G. P., Herne-hill; Oswald; Solicitor; An Organist; Scrutator; Senex; M.D.; Brake; A Subscriber; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Warren, Wanganui; Mr. Mardon, Littlehampton; Mr. Huxtable, Watchet; Mr. Eltoft, London; Dr. M'Adam, Edinburgh; Dr. Skerritt, Clifton; Mr. Shirtliff, Kingston; Mr. Devis, Hereford; Mr. Ross, Brighton; Mr. Bincroft, Southampton; Mr. Lewis, Hay; Mr. Sutcliff, Whalley; Dr. Dowman, Ponderland, South Africa; Mr. Barrett, Chichester; Mr. Fisher, Cheltenham; Mr. Roberts, Sheffield; Mr. Tomlinson, Richmond; Mr. Blaker, West Wickham; Mr. Woolhouse, Sheffield; Mr. Castle, Newport; Mr. Brown, Manchester; Dr. Aldred, London; Mr. Stevens, St. Austell; Mr. Allan, New Pitaligo; Dr. Mathews, Yealand Conyers; Mr. Parker, Wotton-Bassett; A., Bishops Stortford; D. 75; Practitioner; W. C., Woodbridge; Alpha, London; Surgeon, Redcar; L. L., Bruff; Alpha, Aberdeen; L.; Medicus, Beverley; A. M., Shepherd's-bush; Alpha, Kilburn; Assistant, Liverpool; Surgeon, Liverpool; Medicus, Coleraine; W. W.; D. M.; Probus; R. D.; B. 75; Dr. B., York; E. F., Leamington; Medicus, Holsworthy; Medicus, Frazerburgh; G. B.; Zero; C. H. A.; M.D.

Plumber and Sanitary Engineer, Call's Packet News-Letter, Journal of Education, Dietetic Reformer, Students' Journal, Social Notes, Sheffield Daily Telegraph, Liverpool Weekly Post, Edinburgh Daily Review, Woman's Weekly News, Vaccination Inquirer, Brighton Guardian, 's Hospital Gazette, L'Express, &c., have been received.

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, Oct. 2nd, 1879.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Sep. 26	30·32	W.	51	49	96	65	44	..	Fine
,, 27	30·33	N.E.	54	50	92	64	48	..	Fine
,, 28	30·17	N.W.	56	53	88	64	51	..	Overcast
,, 29	30·05	W.	57	56	..	64	54	0·47	Overcast
,, 30	30·18	E.N.E	55	53	78	63	51	..	Overcast
Oct. 1	29·70	S.W.	58	57	..	65	52	0·33	Raining
,, 2	29·92	W.	51	49	79	60	46	0·03	Fine

Medical Diary for the ensuing Week.

Monday, Oct. 6.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M., and on Tuesday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

Tuesday, Oct. 7.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, Oct. 8.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
ROYAL MICROSCOPICAL SOCIETY.—8 P.M.

Thursday, Oct. 9.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

Friday, Oct. 10.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
QUEKETT MICROSCOPICAL CLUB.—8 P.M. Ordinary Meeting.
CLINICAL SOCIETY OF LONDON.—8½ P.M. Report of the Committee on Dr. Douglas Powell's Case of "Leprosy with Enlarged Glands."—Dr. Dyce Duckworth, "On a Case of Myxœdema."—Dr. Ord: "Notes on some Cases of Myxœdema."—Dr. F. Taylor and Mr. Howse, "On a Case of Empyema in which portions of Rib were Excised."

Saturday, Oct. 11.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

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